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ORIGINAL ARTICLES

BISMUTH PASTE IN THE TREATMENT OF RECTAL FISTULA*

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The best proof that the treatment of rectal fistula is still imperfect is offered by the statistical reports from various surgical clinics.

Tuttle, for instance, as quoted by Pennington, says: "In 2,196 cases operated on by surgeons in general hospitals, less than 45 per cent. of them were not even claimed to be cured."

Most of us are not aware of this large percentage of failures and in our own practice we are likely to lose track of the percentage in which we have not obtained a cure. Nevertheless, nearly every physician will recall a number of patients in his practice in whom he failed to cure the rectal fistula.

Granted that the percentages of failures quoted by Tuttle is larger than later statistics might prove, it must be admitted that operations for rectal fistula are frequent failures. We meet with cases which have been operated on a number of times without avail. In fact, experience teaches that if the first operation was not successful, the subsequent operations are also likely to fail. The patients dread a rectal operation. They seem to anticipate failure, and fear the possibility of having an incontinence added to their old trouble.

With such a large percentage of failures in the treatment, and with the opposition on the part of the patient to the present methods of treatment of a disease so prevalent and often so distressing, our time will be well employed in making a thorough investigation of this subject and determining why so many cases of rectal fistula are refractory to all forms of treatment.

* Read before the Chicago Medical Society, Dec. 21, 1910.

My brother Carl and I have had the opportunity during the past four years of observing and treating a large number of rectal fistulæ with a new method, which has thrown so much light on this dark field of surgery that I feel prepared to assist in explaining the causes of failure.

The method employed consists of the injection of bismuth paste into the fistula and then taking a radiograph. It seems needless for me here to describe in detail this method, inasmuch as most of you are familiar with it. I shall only speak of it with special reference to technic in rectal cases.

The paste, which fills all the recesses of the sinus tract, furnishes a picture of the entire network of undermining channels. Stereoscopic radiographs are so much superior to the single plates because they give a plastic picture and inform us of the relation of the sinus tract to the other structures of the pelvis. My brothers and I have employed the latter method during the past three years almost exclusively, notwithstanding the increase in its cost.

These radiographs explain in most instances the causes of failure. *The most frequent cause of failure is the incompleteness of the operation,* because the surgeon has had no reliable means of estimating the extent of the fistulous tract previous to the operation. *The probe in this connection is unreliable.* It fails to inform us as to the extent, the direction or the depth of the fistula. The mere fact that the probe when introduced into a fistula is arrested at a certain point is no proof that it has reached its bottom. It may and usually is arrested in some fold or curve of the sinus, whereas a whole labyrinth of sinuses beyond our conception may exist besides the one channel into which the probe was inserted. I illustrate a case in which the passing of a probe indicated that we had to deal with a single straight fistula, and behold, "a turtle-shaped sinus," so different from what we expected revealed itself in the *x*-ray picture. In our collection of cases radiographed, there are only one or two instances in which a probe could have explored all recesses through the external opening.

The injection of colored fluids for the purpose of staining the walls of the sinuses so that they may be easily traced during the operation is likewise unreliable. In the first place, we cannot study the topography of the sinuses previous to the operation. They may extend into inaccessible regions of the body, and this is not discovered until the patient has been subjected to the operation, and often after he has been on the operating table for an hour or longer. Furthermore, the stained sinuses are often lost track of during the operation by the distortion of the tissues and the bloody discoloration.

It is thus evident that these two diagnostic aids, which formerly were the two most prominent factors in diagnosis, are not quite satisfactory, whereas the use of the injection of the paste and the stereoscopic radiograph will give us so much information as to permit us to carry out our surgical treatment according to a definite plan, with a perfect knowledge of the anatomical distribution of the sinuses.

There are four points which I wish to make:

1. That a correct anatomical diagnosis of rectal fistula before the operation is undertaken is essential and such can be obtained by stereoscopic radiographs of the injected tracts.

2. That many cases of so-called rectal fistula are inoperable because they originate or extend into inaccessible regions, as, for instance, the sacrum, the hip or the spine.

3. That a correct anatomical diagnosis will prevent us from attempting impossibilities and thus save the patients from useless operation.

4. That operable as well as inoperable fistulæ around the anus can be cured by the injection of the bismuth paste.

The last point brings me to the consideration of the treatment of rectal fistula.

After four years' experience in the treatment of these fistulæ with the bismuth paste, we have come to the conclusion that only those cases should be operated on in which the bismuth paste has failed for a definite reason. A thorough trial of this method should precede any operative treatment, because the injection is painless, harmless and in at least 75 per cent. of cases effective.

The therapeutic possibilities of the paste in rectal fistulæ are illustrated in the following case:

Mr. J, P., aged 68 years, developed in 1868 a pararectal abscess. Being a cowboy and living in a rural district where a physician was not within reach, he performed his own surgical operation by plunging a jack-knife into the abscess, with the aid of a mirror. Within one year he had five sinuses around his anus, which discharged pus uninterruptedly for forty years. Although many times advised to undergo an operation, he refused, preferring daily dressing, to which he so accustomed himself that he did not mind their inconvenience.

In June, 1908, I first injected the fistulæ with bismuth paste (Formula I) and found that the five sinuses communicated. To my surprise, the discharge ceased after this first injection, and one month later all sinuses were closed, and have remained so.

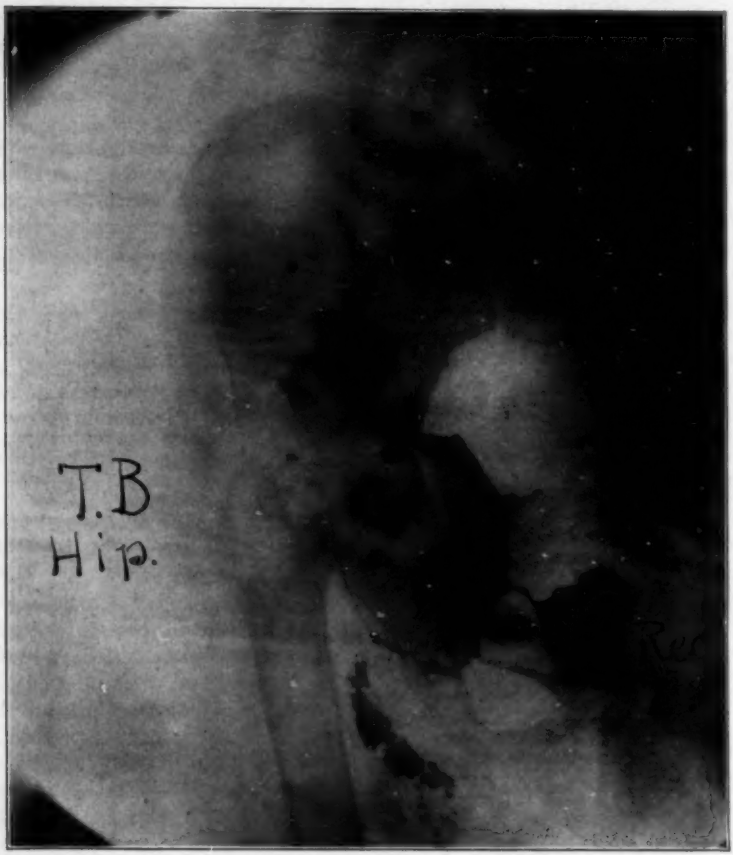
The literature contains many scattered reports of cases of rectal fistula treated with the bismuth paste, and the average results have been satisfactory. Failures in treatment could in nearly all cases referred to me be accounted for in two ways, first, faulty technique; second, incorrect diagnosis.

The only special report on rectal cases is that of Pennington, who tested the method shortly after he saw my cases, brought before the Chicago Medical Society in January, 1908. His report relates to 17 cases which he treated by the bismuth paste, some of which had been previously treated by other methods. After a period of four months he obtained a cure in 14 of the 17 cases (76.8 per cent.).

TECHNIQUE IN RECTAL FISTULÆ

The patient should be placed in the knee-chest position, and the opening cleansed with alcohol. A metal syringe, filled with the paste, is then immersed in hot water so as to keep it liquid. The tip of the nozzle is placed against the opening and with steady, gentle pressure the paste is injected into the sinuses until the patient feels some pressure. *No*

force should be used. In order to ascertain whether the external sinus communicates with the rectum, the finger should be introduced, and if it shows traces of the paste we may conclude that we are dealing with a complete fistula. Should this be the case, then the treatment will be somewhat difficult. It is then necessary to occlude the internal opening of the fistula with the finger while the paste is being injected through



Rectal fistula originating from hip-joint disease. Note narrow channel into rectal abscess.

the external opening. Thus the escape of the paste into the rectum is prevented and forced into the other direction, where it will fill other existing channels. At times it becomes necessary to employ a rectoscope, in order to inject the fistula through the opening within the rectum. For thus purpose the long nozzle of the metal syringe is used. This must be kept warm, so that the paste may not solidify and clog the

narrow channel. When the fistula has a very small opening and is in the puckering folds of the anus, the spear-shaped tip is to be inserted while an assistant stretches the folds and the injection is made.

After the injection is completed, a T-bandage is applied and the dressing changed daily. If, after one week, the discharge continues to be purulent, the fistula should be reinjected. If the secretion becomes serous, it should not be reinjected, as it will usually close within a short period.

The following case is typical of those in which incorrect diagnosis led to futile operations:

Rectal Fistula Originating in the Pelvis.—The patient, a lady, aged 30 years, has since 1900 undergone six operations for rectal fistula, all of which failed to stop the profuse and irritating pus discharge. The last operation was very extensive and produced incontinence of feces. In this condition the patient came to me in January, 1908, when I made the first bismuth paste injection. A radiogram disclosed that the fistula had its origin high up in the pelvis. Several sinuses as high as the sacral prominence are plainly shown, the early discovery of which could have saved the patient the six operations and nine years of invalidism. This fact was corroborated further by the most satisfactory result obtained from the bismuth paste injections. It required three months' treatment, but the sinuses healed. The sinus openings were intrarectal; the large gaping rectal opening permitted their being easily reached and injected. A year after the cessation of discharge a plastic operation for the incontinence was tried, but was only partially successful. Patient gained 32 pounds.

RECTAL FISTULA ORIGINATING IN TUBERCULOUS HIP JOINT.

A young lady, aged 17 years, developed a typical hip joint disease two years ago. After extensive destruction of the joint and shortening, two abscesses formed and one opened above Poupart's ligament, the other on the anterior aspect of the thigh. She complained also of intrapelvic pain, constipation and pain during urination. An examination of the rectum revealed an abscess high up in the rectum. Compressing the abscess would cause the escape of pus through both sinuses in her groin. The radiograph (Fig. 1) gives a very graphic picture of the abscess formation in the vicinity of the rectum. The abscess ruptured spontaneously into the rectum about three weeks later, and resulted in an intrarectal fistula. Here, then, is a fistula opening into the rectum, which in the true sense is not a fistula; it is a sinus from a tuberculous hip joint, and its cure can be accomplished only by curing the focus in the hip joint and not by rectal operation.

Examples such as the one cited above must guard us against assuming that every suppurating sinus near the rectum is necessarily a rectal fistula.

We must bear the fact in mind that a fistula is nothing more than a shriveled old abscess cavity, and not, as is often supposed, a channel formed by an ulcerative process from the surface, burrowing into the depth of the tissues. At times the abscess is multilocular and will undermine a large area in the perineum, and thus an irregular network of fistulous tracts may surround the rectum, and form a number of sinus openings around the anus.

I trust that these few examples, to which many others quite as instructive and convincing might be added, will help us in applying this painless, simple and effective treatment, which involves no anesthetic and

permits the patient to continue his customary duties, and to reserve the operative treatment for those cases only in which the operation itself seems the only means of relief.

A CLINICAL SERVICE IN OUR STATE HOSPITALS *

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The object of a clinical service in all hospitals is primarily for the treatment and care of individuals afflicted with disease. The method of organization of this service is dependent on the class of diseases to be treated and the funds available wherewith the necessary facilities, corps of employees and other important features of the organization may be secured. The details of this organization, in order to produce the greatest efficiency, must needs be systematically developed, keeping ever in view, as I again say, the welfare of the patient. That organization which, in its utilitarian values; provides the best equipment in modern appliances and facilities; which seeks the best help to supervise and execute the demands of the service, which gives the most intelligent medical direction and imparts inspiration, education and practical value to the service, will best fulfil the mission of the modern hospital, whatever may be the class of cases treated therein.

To attain an efficiency just intimated would be nearing an ideal seldom if ever within the possibility of consummation even in our state service for the reason that the frailities of human kind, noticeable in the stuff from which we mould our ideal employees, rarely measures up to our desires, our hopes, our aspirations. Be the plant ever so modern or the finances always dependable and adequate, there yet remains that part of the equation with which we have to reckon, which may make or break the success of service in any hospital, namely, the human factor. This powerful disturber of peace and efficiency in personal service, with its traditional inertia and other intensely human traits, is not infrequently the problem of problems to perplex and disturb the organization of any clinical service; problems not presented in the abstract of books, but in the living concrete realities of daily experience; problems not limited to the minor employees in the service, but accompanying and becoming a part of the medical and nursing staff, yes and even reflecting itself in the person of the superintendent himself. We are all human, and perhaps the less we say of our faults the better. Perhaps we had better be blind to them, except when they do interfere with the service, and then let us speak with authority, not even omitting our own shortcomings and inadequacies as a part of the complete equation.

To overcome the potential possibilities of the personal handicap which is a living reality in all hospitals, we must endeavor to cultivate

* Read before the Annual Meeting of Board of Administration, Civil Service Commission, Charities Commission and Superintendents at Springfield, Nov., 1910

the true spirit of service—this, by precept, example, appeal, the educational values of comparisons, and excursions into the realms of the ideal. The spirit of service which inculcates an ideal to-day, to-morrow and all time, will in its living reality discharge the duty which lies next, even though the toil be intense and prolonged, because the compensation is in the accomplishment of the service and the consciousness of growing power and worth in duties nobly met and work thoroughly done.

Again, we need to develop in a clinical service the true spirit of professionalism in the medical staff, the nursing corps. The modern hospital with its equipment and organization is representative of the professional age in which we live and, as such, should be in touch with the true professional spirit. It has been said that it is difficult to maintain, much less create a professional spirit in our state hospital service: that this is due to the isolation of the medical members of the service, and to the intensity of the routine which is their lot in the average hospital for the insane. My answer to this is, that it is not necessary that the members of the staff be isolated from professional colleagues, nor should the fact that they are spokes in the professional wheel, which revolves every day, make them routinists. While I know the routine duties of the service take time, they should; and no physician on the staff has a right to have any greater ambition than to do each day's work well.

Let this work be the criterion of his merit—"not to see what lies dimly at a distance, but to do what lies clearly at hand." This is the true professional spirit, and the faithfulness in small things should implant an intellectual impetus for mental promotion, thus leading to well formed habits of professional service. This implies that the physician will throughout his career preserve a receptive attitude of mind that will enable him to combat with all his strength the fatal tendency to become stereotyped. This tendency we know is partially temperamental; partially the result of his self-induced isolation and acquired intellectual inertia; but whatever it is, it is fatal to the development of clinical service in our institutions. I must insist that from the superintendent to the intern; from the chief nurse to the novitiate in the training school, there must be guarded effort to keep the mind plastic, and at all times be ready to receive, at whatever cost to old and cherished beliefs, the new facts, the new ideas, methods and manners of treatment and of service, which progress has established as worthy of consideration. "Wrong convictions like out-of-date guns are a source of danger and must be relegated to the mental scrap heap." True professionalism develops, conserves and utilizes the best endeavors of every true physician and nurse. It carries with it the gospel of loyalty to the service, loyalty to truth, and is a stimulating example to the subordinates attached, in other positions, to the service.

The foregoing preamble emphasizes the fact that it takes more than equipment and facilities to create and develop a clinical service; it takes men and women imbued with the power to live deeply, even in the atmosphere where disease is repulsive to many healthy natures. Mabie tells us "we never accustom ourselves to disease, and we never cease to resent it as

the intrusion of a foreign element into the normal development of life and an interference with the free play of its forces." In the treatment of mental diseases, too frequently, this deflection from the normal line, where the individual in his reactions fails to reach trustworthy conclusions, its effects are of painful interest to all concerned. So much in fact is painful in mental diseases that to interpret aright and to let skill in observation be not the only incentive which actuates men and women to study these cases, we must inculcate veracity of ideas, breadth of understanding of social conditions which have figured in the causation of disease, and thereby develop the sentiments through the accumulation of experience, rather than to have them blunted or blotted out by contact with these unfortunate ones. The growth of sentiment is, as McDougall says, "of the utmost importance for the character and conduct of the individuals, and of societies: it is the organism of the affective and conative of life." By it we estimate value, merit, moral principles, and are able to inculcate self respect, without which we cannot entertain respect for others. This factor enters into the clinical service of an institution, the sentiments as expressed in the spirit of professional and personal service rendered by physician and nurse.

The question of the patient's stay in the hospital as being productive of good rather than evil may, in fact has in my experience, turned upon that factor as to whether her stay is an added blessing or an added horror, governed by the presence or absence of true sentiment expressed in the service rendered the patient alike by physician and nurse. I speak feelingly on this question because it is not impossible in my experience to have clinical service shattered or deformed at least by an intrusive belief on the part of physician and nurse that the patient is an interloper, an intruder on the ward, a usurper of the rights and privileges of the nurses' valuable time, and disturbs the physician's cogitations, perhaps on the novels of Guy de Maupassant. What we want is not an incarnate tragedy in the coming of the patient to the hospital, but the control of the situation by a native or acquired tender heart surcharged with the belief in individual service—a cultivated service which is an art, a professional art—a true vocation. Osler said: "There is no higher mission in this life than nursing God's poor." I believe we can paraphrase it and say "God's mentally afflicted." In so doing one may not reach the ideals of one's soul, but we can go far to satiate the longings of the heart to be of service in this field of medicine.

Perhaps I have indulged in a preachment in this prelude to the development of clinical service; if I have, it is because I believe that the criticisms and faults concerning the efficiency in state hospitals, in the past and of the present, can be traced to the lack of spirit of the service as well as to the maladjustments in the more direct scientific service.

We all know that with the Psychopathic Institute as the nucleus, of which Dr. Read has addressed you, there is slowly being evolved a scientific service comparable with a like service in any other state in the union. But, let it be said, the Psychopathic Institute cannot do it all. It can show the way to the young physician anxious and willing to learn, but

to this potential possibility of service there must be added the increment of cooperation on the part of the several state hospitals; this cooperation to be vested in an organization of a clinical service the machinery of which is to be run by the selected and trained men placed in charge. Now, what constitutes the machinery of such clinical service?

The machinery should be based on a constructive policy—a policy such as prevails in large manufacturing concerns which is willing in the sense of truest economy to break up and throw out the most costly plant if, by so doing, it can be superseded by a more efficient service. In other words, we ought to be economically constructive and should in the true spirit of efficiency of service be willing to do away with old traditional beliefs, old-time tried and fire-tested theories, which bind one in mental prison, and seek to recast our service to have it in keeping with the advancements of to-day. Yes, even more than that, try to make it creative that it may spell originality in service, and thus set a pace for more progress. We must, if we expect to make progress, get away from rooted antipathies, from mental attitudes such as Matthew Arnold called "philistinism," or else we will find our machinery ineffective and trammeled by faulty traditions.

The machinery of our institutions necessarily is representative of the general principles which have governed the treatment of mental diseases since these institutions have been established, modified, however, from time to time, as new principles have been evolved and time has warranted their adoption in the routine of daily practice. For this reason each institution is handicapped more or less structurally with conditions which, in the light of modern rational treatment, conspire to interfere with the most economical practice of present-day therapeutics.

While it is true there is wide latitude allowed in all treatment and many features of treatment are the same to-day as they have been in the past, that is to say that the fundamental principles on which general treatment of mental disease is founded are practically the same to-day as in the past, yet there is an ever changing routine in the practice of medicine of which psychiatry is a part, due to progress in etiology and clinical pathology, etc, which necessarily changes the rationale of treatment. The old ward system with single rooms and dormitories, at the time of their evolution in the treatment of mental disease was, and is to-day, an evidence of broad common sense rationalism, but modern practice goes further and gives the infirmary wards, the hospital wards with their single rooms, dormitories, etc., in keeping with present day conceptions of treatment.

Facilities for the rest methods of treatment including hydrotherapy as an adjuvant are imperative needs of common sense rationalism of to-day, as we better understand the causes of and the indications for treatment of mental diseases. The modern hospital idea has invaded our hospitals for the insane and is changing the modes of structure, considering efficiency as involving more than the building of wards of defined capacity. It means such accessory quarters, buildings, etc., as meet the full demands of service, namely, hospital wards or pavilions for acute

disease, medical and surgical; isolation wards or pavilions specially constructed for the treatment and care of tuberculous patients; buildings for manual arts and crafts training, and such other needs as accumulated experience has dictated. The last but not the least of these in this evolution are quarters for the nurses—the nurses' home, separate and apart from the wards in which they see service; staff houses for the resident medical staff, which are in keeping with the domestic requirements of every home-loving and serviceable staff officer. Much could be said regarding the staff house as a necessary adjunct to a well-organized clinical service, quoting the experience of the medical department of the United States Army, Navy and Marine-Hospital Service, wherein it is shown that permanent efficiency was not attained until provision was made to give the staff members home life and its ordinary domestic comforts.

You may ask what has equipment such as just stated to do with the ultimate purpose of treatment of the patient? My answer is, that all of these hospital units and more, including the engineering, farming, etc., in their sum total make the efficient service. In fact the hospital unit idea is the only plan which does meet the demands of service—these units are part of one whole, and this whole has for its object the treatment and care of the patient. There is not an institution in the service of state care of the insane in Illinois which as yet, in its equipment, measures up to all the demands of the clinical service as we would have it. That is no reason why we should not make the best of what we have and utilize to the limit (thanking God that we have what we have), for the best service possible under the circumstances. I am an optimist as regards the present and future service of our state hospitals in Illinois, in spite of the handicaps which structural deficiencies intrude into organized clinical service. The American Hospital Association in its progressive work has given new ideals to the general hospital service and from this organization our state service could receive much inspiration and encouragement along the lines of structural needs and demands to be in keeping with the modern conceptions of clinical service.

The equipment such as is necessary to meet the demands of clinical service in our state institutions, if not at hand, can be improvised at least sufficient to give adequate service in handling the acutely sick and to extend the full benefits of hospital service to the tuberculous and infirm. The future hospitals in Illinois will profit by the best that is in our present day service which, as is well known, is the outcome of ideas which have already been applied to the service. What is new is but the innovation of preexisting conditions good or bad.

Now, given an equipment, how are we to manage or conduct it as based on the hospital idea? Fortunately the civil service as adopted in Illinois has given an impetus to an improved personnel in the service. Especially is this noticeable in the medical staff where young men are encouraged to enter as interns and through promotional examinations reach the higher grades in the medical service. Thus selected, where a physician's merit rests in his own endeavors, there is an incentive to work at any

cost in order to achieve the full benefits of such service. This incentive to work is based on the fact that the physician must remain a student if he is to keep his knowledge fresh and up to date. The facilities and opportunities for study in the medical service are greater in fact than the physician can avail himself of, by reason of the constant stream of patients seeking admission to our state hospitals. But it is not numbers of patients which count, it is the systematic study of individual cases and the reading of literature pertaining thereto which counts and which is always a possibility to him who is a seeker after knowledge. Some of the most brilliant and constructive work in medicine, as the history of medicine will show, has been done by men under conditions much more restricted, where isolation was a fact and not a fancy. The value of such an experience to the individual is in seeing not much but wisely.

The training which the young physician will receive in the Psychopathic Institute places him in line with the advances being made in clinical inquiry; teaches him correct habits of analysis and, if he has special aptitude, it will give him the opportunity to indulge his ability in original research for which there is much demand to-day in internal medicine, of which, as before stated, psychiatry is a collateral branch. But what we need in addition to the successful laboratory worker, the research scholar in medicine, to develop and give to our service results in treatment, is the bedside practitioner who can reach the hearts of his patients, can solve their individual needs, bring order out of their chaotic state of mind, and give relief not only to the body but the distressed personal self. We must not forget that there is more to the treatment of mental disease than making a diagnosis; that there is more to the treatment than the research work revealed in the laboratory; that there is more in treatment than the prescribing of drugs and physical means of treatment. To all this, which is essential and truly worthy of sedulous consideration, there must be added that knowledge which will make the physician a success in the study of the individual. The laboratory physician and the diagnostician, says Campbell, "too often mistake the means for the end and delude themselves with the belief that they are actually benefiting the patient by subjecting him to an elaborate system of examination." This criticism, I believe, is more apparent than real in our clinical service in the state hospitals, but nevertheless it is true the individual may be lost sight of in the pursuit of an interesting case. Another feature which we must not overlook, and to which Campbell also refers, is that the man most deeply versed in symptomatology, morbid anatomy and pathology, is the one who is apt to make light of treatment. He becomes so saturated with and fascinated by this kind of knowledge that in the end he actually deludes himself into believing that in the mere investigation and record of symptoms he is fulfilling his duty to the patient. No, we must go further; we need in addition to note the individual—study his personality, know of his trials, his woes, his faulty hygiene, his habits and all other social conditions which are as much a part of his disease from the treatment standpoint as the classification to which he is assigned in the staff meeting.

There are new ideals in peace, as Jane Addams has pointed out, and one of them, as I see it or as I want to see it, is the growth of the study of the individual. Now by ideals, do not associate my views with any slovenly or weak sentimentalism nor vapory fancies or corrupting counterfeits for service; I mean the real sentiment, the rational instinct for service, no star gazing or crystal readings, but work. The essence of the ideal, as Mabie says, "is the application of the imagination to realities." In the clinical problems of state hospital service we deal with realities—the greatest of which is the patient himself—and to apply our imagination to the creation of conditions which will benefit him (the individual), his family (as individual units of society) and society itself (the confederation of units) we are dealing with realities, and the ideal is simply applying the rigid realism about us in a rational work-every-day manner. The clinical service is applied idealism, and the height or breadth of this service is measured by the fountain head as vested in the superintendent; his medical staff; his nursing service; his dietary service and its oversight; his housekeeping service, and all other units which collectively are the potential factors for service. The superintendent is the permanent factor in this organization—in him consciously or unconsciously is the element about which must cluster not only the organization of service but its efficiency. The superintendent must bear the responsibility of this service and he will share in its efficiency in proportion to the extent that his mind and heart are in it. He will create enthusiasm, transmit it to his staff and all concerned in the service according to the ripeness or alertness of his spirit of service, the clearness of his insight into the human problems—the human factors—the richness of which is measured by his imagination as shown in his ideals. It will require more than mere cleverness to keep up the tension, to stimulate the conscious vital side of this service, so as to avoid the fatal tendency of stereotypy in our work. I believe if we are not careful we will be like Voltaire "conscious of our efforts, perhaps full of vitality"; but the unconscious side of our natures which leaves its imprint in our service which others read "may become shallow, thin, undeveloped, and by preponderance may overcome our best aims and purposes."

I am conscious of the fact "that no man can give to his skill the highest use of his knowledge, the final touch of individuality," until both the conscious and unconscious evidences of service are incorporated in his personality—that they have become a part of himself. In other words, the most vital parts of ourselves must by self-education, self-unfolding, reflect themselves in our creative work, our character of service. For these and many other reasons, the weight of responsibility of a superintendent's position grows as he by self-education and self-unfolding realizes, in their fulness, his duties. My greatest responsibility I consider is to the patient as an individual. To bring about or rather transmit this realization of responsibility in the organization of clinical service, the superintendent needs cooperation from the assistant superintendent and the staff. It is needless for me to dwell on the attributes of character which spell efficiency in these positions. Only this, that

provincialism, narrowness of interest and lack of creative force will do much toward marring efficiency. Provincialism is the side partner of stereotypy; in fact, they are twins. Provincialism is the substitution of a part for the whole—the acceptance of the local experience, knowledge and standards as possessing the authority of the universal experience, knowledge and standards. I dare say all of you who have had to deal with old traditions, old manners and deep-dyed customs in institution experience will recognize that provincialism is the root of it all. The narrowness of opinion, the isolation from facts as the practice now knows them, and hundreds of other features in institution work, tell you how deeply rooted is provincialism. It rests on the assistant superintendent under our system of organization to bear the brunt of the creeds and rituals which time has created in any institution. To break through them he must assume the attitude of a reformer and show by his larger knowledge that the substitution of a part for the whole is responsible for the lack of efficiency.

The chief nurse comes in to bear the immediate brunt of any reform in the old order of things. Reform never can be final—a new order of things must ensue, and no one way of doing things can forever prevail. Readjustments are necessary and a resurvey of experience imperative from time to time if we expect to progress. For this reason it requires fresh blood; in fact, audacious practitioners in any art, by dint of insistance, by example and precept, to bring about new developments. The chief nurse, whoever she is, will suffer criticism and supervising nurses will find iteration and reiteration necessary to change the order of carrying "the meal sack to the mill." It requires, I am sure, maturity of experience to bring poise and balance in any service, but that service which is weighted down by provincialism and cob-webbed theories never will declare dividends. Provincialism breeds philistinism, and both breed discord, discontent, disloyalty, low standards, and the final result is the patient is lost in the shuffle and service falters. We need to grow a spirit of breadth of purpose, liberal ideas of service and give educational value to our training of nurses not only in technical knowledge but in the humanities—give the benefit of culture as well as training. This can be done because educational experience comes not through systems, subjects, apparatus, but with applied knowledge through teachers. Emerson said "it makes little difference what you study, but that it is the highest degree important with whom you study." Text-books give technical knowledge, but contact with the patient teaches life itself. A ward physician and nurse should learn these lessons and get as we get from Faust not only a chapter from life but a great study of human nature, and this knowledge is best obtained in the tragedies which we meet daily in our work.

I have taken too much time already in this desultory talk. My theme, "A Clinical Service," has allowed me to present this very human side of it, which I have purposely chosen, because I believe each of us needs a review from time to time of this view of service—we need to see more of the life side—more of the patient's needs as an individual, and

with this background see how we can put a new setting to our ideals of service.

The problems of the clinical service will ever have a great deal to cause worry; the same old jealousies and rivalries among employees (without which the superintendent sometimes would not feel he was on earth); the same old difficulties in internal management found in all institutions; the same old weaknesses with the nursing staff, greater as proportionately the hospital is larger in size; the same old hampering financial problems and at last but not least, the securing and keeping of qualified help in all of the departments, and that nightmare, the cyclic experience of the back-door leak of hospital supplies.

All of these problems and more are features of daily experience of a superintendent, whether he manages a small hospital of twenty beds or one of twenty-seven hundred beds. The clinical service in its direct management, the supervision of its features, are in themselves sufficient to keep one's time employed. To paraphrase Dr. Dewey, "a superintendent should do nothing else than to see that the other fellow does the work." This presupposes that the superintendent by experience and training has the knowledge to know when the other fellow is or is not doing his work. "The world is prone to love wonders; it cares much more for the miracle than for the power which the miracle discloses or the truth which it reveals." The superintendent frequently finds himself in the anguish of being sought after as the magician capable of performing a miracle, rather than a seeker after truth, and trying to enforce simplicity and veracity in the duties of the day. But those of us who have no prophetic powers, no special gifts save those which following the line of duty imparts, recognize that we cannot perform miracles and we have no subordinates who can, excepting now and then we meet among our employees one who illustrates Oliver Goldsmith's saying:

> "For e'en though vanquished, he could argue still;
> While words of learnèd length and thundering sound
> Amazed the gazing rustics ranged around;
> And still they gazed, and still the wonder grew
> That one small head could carry all he knew."

I have said enough, excepting perhaps to urge that we give encouragement to young men to enter the medical service; make it worth while, by opportunities for experience, by financial remuneration compatible with securing of high grade serviceable men. We need experienced men to-day in the service to carry out the development of our clinical service. By experience, let me remind you of Osler's saying: "Experience in the true sense of the term does not come to all with years or with increasing opportunities." It is the man who observes carefully and spares no pains, where nothing is thought of as trouble in the search for truth, who profits by experience. We have such men in the service of the state hospitals to-day, and they will grow year by year. Yes, grow not only in mental protoplasm and what will be absorbed thereby, but in tenacity of purpose, in belief in ideals, in truth, in service, and thus "get breadth of view which is the very essence of wisdom." Illinois and the medical profes-

sion need these workers in our state service. Let us encourage them to remain in it because they give of themselves unselfishly to the service that which the great Commonwealth of Illinois needs, a belief in the spirit of true professionalism, which seeks at all times the betterment of the service in which they are enlisted, the care of the sick. Again, the intrinsic value of such service extends the belief in the value of treatment, gives confidence in early treatment of mental diseases and throws about the unfortunate one afflicted with such disorders the sheltering arms of true scientific medicine. To me, the investment of money in the development of a clinical service the machinery of which is in the hands of scientific men devoted not only to their science but their profession and all that implies, will declare dividends in work well done; in lives saved and restored to their homes, their loved ones; in a social awakening as to the causes of mental disease which will bring honor to the state in maintaining a service of such efficiency.

LIGATION AND PARTIAL THYROIDECTOMY FOR HYPERTHYROIDISM

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Within the past few years a great deal has been added to our knowledge of the ductless glands, but in none of them are greater changes observed in the structure of the gland itself, or the symptoms more manifest in the individual caused by changes in secretion, than in the diseased thyroid. Data concerning the overactive thyroid has traveled up through a century and a quarter of symptomatology which varied between the heart, the nervous system and intestinal toxins until Möbius presented his theories of hyperthyroidism twenty-five years ago.

Lacking in a pathologic picture for so long a period, the peculiar syndrome of symptoms which marked the condition was naturally designated in its various forms by the name of the author whose views had become best known.

In the peculiar relationship in function of the ductless glands, many symptoms occur which apparently vary within wide limits; thus the results of hyper- or hypo-activity may be mild or severe, transient or permanent.

Diseases of the other ductless glands are less common and rarely cause anything like the marked changes in the general appearance and in the expression of the individual who is affected with hyperthyroidism. Unlike the thyroid they are not hampered by pure symptomatology, and information concerning them was developed from the pathologic side at the onset.

There has been a determined effort by many observers to apply the old titles of the disease to symptoms caused by the overactive thyroid and

to neglect the study of the gland, a practice which very often prevents a recognition of the condition at a period when simple measures might have been employed to cure or to check it.

Hyperthyroidism has been observed and well described for the past 125 years. In the early part of this period, Morgagni, Parry and Flagani carried their observations up to the Graves period (1835). Five years later Basedow revised the work on this subject and in 1858, at the suggestion of Hirsch, this syndrome of symptoms was generally designated "morbus Basedowii," a term still commonly employed on the continent.

It may be said, truly, that every case of hyperthyroidism is not a case of Graves' disease or Basedow's disease, i. e., a patient may present all of the symptoms commonly seen except exophthalmos, which may delay applying the term Graves' disease to the case until this missing symptom appears a month or two later. Descriptions of the condition given by Graves and Basedow were undoubtedly based on a number of well marked cases presenting the majority of symptoms common to the condition. Histories well taken, however, will show that many of these cases were not recognized at the beginning as Graves' disease, and that they were treated, perhaps for months, for intestinal toxemia because of the patient's emaciated appearance and serious stomach and bowel disturbances, or they have been treated for endocarditis until the missing symptom, exophthalmos, developed to prove the exact condition. Still another series of histories will show that the goiter did not appear except as a late symptom, and again, it had existed as a simple goiter without symptoms for several years preceding the development of the well-known changes of the condition.

We have, then, different degrees of hyperthyroidism which may furnish grounds for a reasonable discussion as to whether the change may not at times be a physiologic one of a temporary nature, as is seen in changes in the thyroid at certain times, e. g., during menstruation, pregnancy, puberty, etc., due to the intimate association of the gland with the generative organs in the female. While it is apparently essential that an increase of thyroid parenchyma should be shown in well-marked cases of hyperthyroidism, in the milder cases it is not necessary that the microscopic picture should be more marked than such evidence of cell increase, as is seen in the lactating mammary gland.

There are numerous instances where cases of hyperthyroidism have run rapid courses to death, which were essentially due to toxemia. However, the greater number of these cases live through the stage of simple hyperthyroidism, and should they die their death is usually due to secondary changes in the heart, liver and kidneys from the degenerative changes in the gland. Such changes and the results of them are seen even when the gland is in an irregular or constant condition of hyposecretion, secondary to a previously overactive secretion.

The term "exophthalmic goiter" may not even be descriptive of the condition, as in the early stages of the disease some patients may not have goiter, and others may not have exophthalmos, and both of these

symptoms may be absent in rare cases. In fact, of the numerous symptoms by which we identify the disease, there is no one symptom the presence of which is necessary to the making of a correct diagnosis.

There are some forms of myocardial disease which may cause severe symptoms common to hyperthyroidism as well. In certain cases of nephritis there may be symptoms in common, especially widening of the palpebral fissure, or Dalrymple's symptom in Graves' disease.

It is difficult to determine just what is the etiology of hyperthyroidism. Some patients give a good history of severe mental strain or nerve shock, yet this exciting cause might be but a slight factor in upsetting the equilibrium of the nervous system of a patient who up to that time had been neutralizing an excess of secretion from the thyroid. Probably more frequent than any other one cause of this condition is that of infection, with tonsillitis the most frequent antecedent.

Halsted's work on this subject developed the fact that the removal of one lobe in dogs caused an increase in the parenchyma of the remaining lobe resembling that in exophthalmic goiter.

Marine has shown that the withdrawal of or administration of iodin to dogs affected with colloid goiter caused increase or reduction in the size of the growth.

In the microscopic examination of several hundred exophthalmic goiters, Wilson has shown that the history of the individual corresponded to the microscopic changes in the gland in 80 per cent. of the cases. In some of the cases which did not show corresponding changes, it was evident that the section examined did not represent the typical changes of the gland.

From an extensive experience in the examination of thyroids removed in Graves' disease, MacCarty has advanced the reversion theory, i. e., that there is a tendency in the gland of hyperthyroidism to revert toward the simple form of goiter at some period of the disease in practically all cases which are not progressive, and also that such reversions may occur at any period or stage of the disease. Certainly this hypothesis is borne out in practice, as we are constantly seeing patients in whom exophthalmos and a small goiter are the only symptoms left after an attack of hyperthyroidism of the most severe type which occurred many years before. Most of the severe cases of hyperthyroidism give a history in which recurring spells of exacerbation of symptoms are well marked. Under such circumstances it is difficult to accurately gauge the effect of remedial measures, or to say whether such remission, which has occurred repeatedly, is characteristic of the disease or due solely to measures employed in the treatment, or whether they improved in spite of the remedy.

Pathologic findings in ordinary hyperthyroidism is an increase in the parenchyma of the gland, and is shown by an increase in the number of cells lining the alveoli in single or multiple layers, and again by an increase in the number of alveoli.

The pathologic picture of cases of hyperthyroidism which have developed on long standing simple goiters is one of papilloma, mostly invaginations projecting into the lumen of the vesicles. These projections are

covered by new epithelium and constitute the source of the increased secretions. Both of these forms are common and present all the symptoms of the conditions, although the latter form is more commonly associated with the degenerative changes in other organs.

There is another form of hyperthyroidism, unilateral exophthalmic goiter, in which the symptoms may be well marked with the exception of exophthalmos. The eye symptoms are present, i. e., Dalrymple's widening of the palpebral fissure showing more sclera, and Stellwag's sign, staring without widening. In these cases attacks are remittent with periods of exacerbation of a few weeks, and a quiescent period of a few weeks or months. The tumor is unilateral and consists of an encapsulated adenoma which causes irritation and pressure absorption of the nearly normal thyroid surrounding it, when from time to time there is an increase in the growth of the tumor. Such cases would be properly placed with those classified as *pseudo* or *fruste* Graves' disease.

In an examination of a large number of cases of hyperthyroidism (it now numbers over 1,000 operated on), it has become evident to us that there is a condition of increased parenchyma in the thyroid marked by the evidence of hyperthyroidism, and that these symptoms do not necessitate early stages, at least that there should be any serious degenerative lesions of the heart, liver, etc. When such degenerations occur there is usually a preceding or accompanying degeneration of portions of the thyroid gland.

We have two groups of cases of hyperthyroidism. First, the simple goiter without symptoms of hyperthyroidism, and second, the group of cases in which the symptoms of hyperthyroidism constitute the main feature of the case. In cancer of the thyroid it is not uncommon to see marked hyperthyroidism; in fact, some cases have every symptom ordinarily classed as Graves' disease.

Treatment.—Admitting the apparent hypothesis that some cases improve with, without, or in spite of treatment, e. g., drugs, mental suggestion, applications external or injected, *x*-ray and galvanism, injections of boiling water, rest, dietetics, change of climate, operations on the sympathetic nerves, on the blood supply, and on the gland itself: a full list from which we may choose a remedy.

From an operative standpoint we will consider the operation of vessel ligation, and one of partial extirpation of the gland. For the mild cases and those seen early, we recommend the simple ligation of the vessels, nerves, and lymphatics at the upper pole, with a linen ligature. Following this procedure the reduction in the delivery and production of secretion seems to bring about that form of reversion of goiter toward the simple type, as has been demonstrated by MacCarty. The same treatment is indicated in the more advanced cases in which the changes in the heart, liver, etc., have advanced to a most serious degree. In this group the improvement is very marked in all who recover from the operation, and the removal secondarily of the larger lobe and isthmus can be made with a marked degree of safety a few months later. Of the cases operated

on by ligation and who were below weight there is an average gain of 20 pounds in four months.

It order that an operation of any kind may be accomplished with a minimum risk in these cases, it is often necessary to use various methods of preliminary treatment, such as rest, *x*-ray and medicinal remedies to improve the heart and kidneys, even before the ligation of one pole is attempted. However, the majority of cases may be operated on when they come to the surgeon, by the removal of one lobe and isthmus approximating three-fifths of the gland. The unilateral exophthalmic type is a safe one for extirpation of the offending lobe.

The anesthetic, whether general or local, and whether ether or some other drug is used, depends, possibly, more on the individual likes of the surgeon, the necessities and conveniences of the occasion, than on the condition of the patient. Personally I use cocain when the signs of degeneration in the heart and liver are so marked that we fear the consequences of ether. All general anesthetics are preceded by one-sixth to one-fourth of a grain of morphin, with 1-120 grain of atropin, given twenty minutes before the operation. Cocain anesthesia is often preceded by scopolamin 1-200 to 1-150 of a grain fifty minutes before the operation.

Disability approximates a few days. The results are about 70 per cent. cured and the remainder greatly improved although operated on at a time when serious and incurable conditions of other organs were present. The mortality for ligation of vessels is 3.7 per cent. The mortality in extirpation cases is 3.9 per cent. This includes the highest mortality of early work. During the past three years twelve cases have died medical deaths (not operated on) within the first eight days after their arrival in the city for operation, their moribund condition being too evident for surgical treatment at that time.

VITAL STATISTICS IN ILLINOIS *

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Mr. President and members of the Illinois Society of Engineers and Surveyors:

I wish to express my appreciation of the honor you have conferred on me in inviting me to address you on the very important topic of vital statistics in Illinois. I am pleased to know that the engineers of this state fully realize and recognize the importance of correct vital statistics in their relationship to public health, and that you also recognize the fact that Illinois is deplorably behind the times in not having a satisfactory law for the registration of births and deaths. It also seems appropriate that I should come to southern Illinois to read this paper because of the

* Read before the Illinois State Society of Engineers and Surveyors, East St. Louis, Jan. 26, 1911.

fact that the opposition to the enactment and enforcement of an adequate registration law in Illinois has come principally from this part of the state.

For some years a story has been going the rounds concerning the lack of vital statistics in Turkey. It runs something like this:

Question.—"What is the death rate in your country (province)?" The Turk answers: "In Damascus it is the will of Allah that all should die. Some die young, some die old."

The second question put to the Turk was: "What is the annual number of births?"

Answer.—"God alone can say; I do not know and I hesitate to inquire."

Are we quite consistent in making fun of the Turk, of asking him to cast out the mote from his eye while carrying such a conspicuous beam in our own? Suppose the same question were asked of us. We would be obliged to answer, if we answered truthfully, no one knows. No one knows the exact number of births each year for the country as a whole, or for a single state, or even for a single city, not excepting the city of Washington which is under the direct control of congress. We do not know, and we have, for fifty years, hesitated to inquire, in any way that would bring satisfactory, effective results.

Let us glance briefly at the history of this movement in the United States, its present status, the advantages of registration, and our duty in the matter.

Historical.—That vital statistics are the basis on which all state and municipal sanitation rests, was early recognized by the colonies. For example, as early as 1631, Virginia required that ministers and church wardens should report marriages, births and deaths. In 1639, the Colony of Massachusetts adopted registration regulations, and in 1646 the Plymouth Colony followed its example. Some of the municipalities required reports of vital statistics.

The census of the United States was primarily constituted for the purpose of making a decennial enumeration of the population so that the representation of the various states in the lower house of congress might be apportioned properly, the first census being taken in 1790, and at each decennial period since that time "the United States being the first country in the world to provide for a regular periodical enumeration of its inhabitants, an example which has been followed by practically all civilized nations." (Wilbur.)

As a correct enumeration of the population, at sufficiently frequent intervals, is absolutely essential to the proper presentation of vital statistics, the constitutional provision that the people should be counted every ten years may be considered to have laid a part of the foundation of vital statistics, and therefore of preventive medicine in the United States. But it was not sufficient to merely enumerate the population at regular intervals, and at an early date the importance of vital statistics was realized, and an effort made to secure these statistics in connection with the other census inquiries. England began a comprehensive series of "Annual

Reports of the Registrar General of Births, Deaths and Marriages" in 1837, from which period dates the beginning of modern sanitation. Other countries soon followed the example of England with the result that at the present time there is scarcely a civilized nation on the globe but possesses a complete official registry of the vital events of its people, with the exception of the United States. This movement, as I have already stated, had been anticipated by the Colonies and was now felt in the United States. The First Annual Report of the Secretary of the Commonwealth to the Legislature; under the Act of March, 1842, relating to the Registry and Returns of Births, Marriages and Deaths in Massachusetts was published in 1843, and the annual volumes have been continued regularly down to the present time. Other states attempted to follow the example of Massachusetts, New York in 1847, New Jersey in 1848, Connecticut 1848, New Hampshire 1849, Pennsylvania in 1851, Kentucky in 1852.

Beginning with the seventh census in 1850 an effort was made to collect statistics of death through the enumeration of the population, as a part of the general census. This method was unsuccessful in giving reliable results; *vital statistics cannot be obtained by enumeration, but only by immediate registration.* But the plan was pursued at each subsequent census until the thirteenth (1910), when it was abandoned.

We thus see that sixty years ago the movement looking toward the registration of vital statistics in the United States was in a somewhat hopeful condition; but, unfortunately, the results were disappointing, the laws were mostly failures; in some states, as New York for example, total failures. In 1880 the results of the registration of deaths under state and municipal authority were utilized, thus establishing the beginning of the registration area in the United States, this registration area consisting of Massachusetts, New Jersey and the District of Columbia. To this were added certain cities known as registration cities, although they were in non-registration states. This area at that time represented 17 per cent. of the total population of the continental United States.

Of course it is understood by all that the *registration* of births and deaths is a state or a municipal function and is an exercise of the police power, and not under the control of the federal government, because the government of the United States under the limitations of the constitution has no authority to conduct such work directly, all such reports of the census bureau being based on transcripts of state and municipal records, the government conducting the bureau of the census in which a system of decennial enumeration is employed, the bureau compiling the returns made by the states.

The importance of this as a state duty was recognized and voiced by Dr. Elisha Harris at the fifth annual meeting of the American Public Health Association at Chicago in 1877. He said: "Before the national census of 1880 is commenced, all the states ought to have a good system of vital statistics organized and in harmonious operation, contributing comparable and numerically complete results.

"Another decade of neglect to adopt an effectual system of registration in the United States would be greatly to the discredit of the intelligence and public spirit of American citizens."

An epoch-making step in international vital statistics was taken at the International Statistical Institute, which met in Chicago in 1893, when Dr. Jacques Bertillon, as chairman of a committee appointed for that purpose, reported a system of classification of causes of death. This classification was favored by formal resolution of the American Public Health Association in 1897 and adopted in 1898 and a plan proposed for its decennial revision, the first to be made in 1900, under the auspices of the International Congress of Hygiene and Demography. The International Conference of State and Provincial Boards of Health recommended it in 1898 and the International Statistical Institute approved it in 1899.

In August, 1900, the International Revision Commission met in Paris under the auspices of the International Congress of Hygiene and Demography, and in response to an invitation of the French government. Representatives of twenty-six of the leading countries of the world participated in the conference, the United States being represented in it by the Public Health and Marine-Hospital Service.

The classification hitherto known as the Bertillon system of classification and since known as the International System, was adopted by the twenty-six countries sending representatives and by the United States for the bureau of the census and the bureau of labor. It has since been adopted by all the registration states and by all the registration cities in the United States. Its chief advantages are that it is international in scope, provides for decennial revision and because of its adaptability and comparability and, above all, uniformity.

As already stated, two states, Massachusetts, New Jersey and the District of Columbia had laws and returns under them, of such character as to permit their returns of deaths to be accepted by the census bureau, these states, together with certain municipalities constituting the "registration area" at that time, and representing about 17 per cent. of the population of the United States.

The progress from that time on is briefly sketched as follows, in a recent booklet sent out by the census bureau:

For 1890 there were added the states of Connecticut, *Delaware* (not entitled to admission and dropped at the next Census), New Hampshire, New York, Rhode Island, and Vermont, which increased the percentage to 31.4.

For the census year 1900 (ending June 1), there were added Maine and Michigan, raising the percentage to 37.9.

The compilations heretofore were made only for census years, there being no data for the intercensal period. Beginning with the *calendar* year 1900, and since the establishment of the Bureau of the Census upon a permanent basis, there have been regular annual reports (Mortality Statistics, 1900 to 1909) and large additions to the registration area due to the constant efforts made by the Bureau, in cooperation with medical and sanitary organizations and with state authorities.

Indiana was added for the calendar year 1900.

California, Colorado, Maryland, Pennsylvania, and South Dakota were added for 1906; Washington and Wisconsin were added for 1908; and Ohio for 1909.

The aggregate estimated population for the last year was 48,776,893, or 55.3 per cent. of the total estimated population of continental United States. The vast number of 732,538 deaths was returned for the latter year, so that although the United States does not possess a complete system of death registration, it does possess returns of great value from the eighteen registration states, District of Columbia, and 54 registration cities in non-registration states now constituting the registration area.

For 1910 returns were also received from certain states that may prove eligible for admission, namely, Delaware, Minnesota, Montana, Nebraska, North Carolina (municipalities), North Dakota, Oregon, and Utah.

Other states have adopted laws in conformity to the essential principles of successful registration and the model law based thereon, namely, Missouri (in effect February 1, 1910) and Kentucky (in effect January 1, 1911). There is widespread interest in the South, which has heretofore been entirely unrepresented by reliable state registration—to its large sanitary and financial loss, because vague rumors of high mortality can only be confuted by accurate registration of deaths.

The next great forward step was taken when the United States standard certificate of death was adopted, with a corresponding certificate for births. The standard certificate for deaths was adopted in 1902, at a time when no two states and few cities in this country used identical forms for the initial schedule, on which the exact comparability of all subsequent data must depend. The progress of the standard certificate since that time may be seen in the accompanying map. The certificate was thoroughly revised at the meeting of the organized registration officials of the United States, constituting the Section on Vital Statistics of the American Public Health Association, Richmond, 1909, and went into effect on Jan. 1, 1910. It contains provision for the more precise statement of age of infants dying very soon after birth, thus enabling us to make the sharp distinction necessary between stillbirths and deaths of children born alive; the more definite statement of both industry and specific occupation of decedents; and uniform instructions for the proper statement of occupation and cause of death. At the present time this form of certificate is used by a population of 66,832,389. Provision has been made for its decennial revision. The adoption of some reasonably uniform standard form of blank is clearly demanded, because in no other way is it possible to secure the two chief essentials in vital statistics, namely, uniformity and comparability of data.

Before taking up Illinois, let us inquire what are the advantages of an adequate system of registration of vital statistics which would bring us into the registration area. These may be summarized under the following heads: (1) legal, (2) sanitary, (3) social, (4) economic.

Legal.—The Committee on Demography and Vital Statistics has declared that "deaths are registered primarily for legal purposes; that is, for the protection of certain rights and privileges of individuals and families. This is the first and most important use of records of deaths, and the sort of utility which appeals most strongly to the general public whenever such records have been long kept."

In 1902 the American Public Health Association adopted certain resolutions which were brought to the attention of the federal congress

with the result that on Feb. 11, 1903, a joint resolution was adopted declaring that:

WHEREAS, The registration of births and deaths at the time of their occurrence furnishes official record information of much value to individuals; and

WHEREAS, The registration of deaths, with information upon certain points, is essential to the progress of medical and sanitary science in preventing and restricting disease and in devising and applying remedial agencies; and

WHEREAS, All of the principal countries of the civilized world recognize the necessity for such registration and enforce the same by general laws; and

WHEREAS, Registration in the United States is now confined to a few states, as a whole, and the larger cities, under local laws and ordinances which differ widely in their requirements; and

WHEREAS, It is most important that registration should be conducted under laws that will insure a practical uniformity in the character and amount of information available from the records; and

WHEREAS, The American Public Health Association and the United States Census Office are now co-operating in an effort to extend the benefits of registration and to promote its efficiency by indicating the essential requirements of legislative enactments designed to secure the proper registration of all deaths and births and the collection of accurate vital statistics, to be presented to the attention of the legislative authorities in non-registration states, with the suggestion that such legislation be adopted: Now, therefore,

Resolved by the Senate and House of Representatives of the United States of America in Congress Assembled, That the Senate and House of Representatives of the United States hereby expresses approval of this movement and requests the favorable consideration and action of the state authorities, to the end that the United States may attain a complete and uniform system of registration.

In passing it may be remarked that the District of Columbia has not adopted the standard certificate, and aside from the Census Bureau having the matter directly in charge, neither the Federal Government nor the Congress have taken a very active interest in the improvement of vital statistics.

1904 Dr. Cressy L. Wilbur, chief statistician, United States census bureau, said:

Pensions or life insurance may depend upon proper evidence of cause of death. The widows and orphans of deceased soldiers must obtain such proofs. Titles and rights to inheritance may be jeopardized by the failure of records. The individual citizen of the state, no matter how humble his position in life, or how insignificant his influence in the affairs of the community, is entitled to have an accurate record made of the important—the vital—events of his life. If the State has undertaken to do this, then the citizen has a right to expect that the state will perform its duty with precision and thoroughness; it is a disgrace to confess default in this important matter, and to admit the failure, year after year, of legislation devised for this purpose.

Governor Hastings of Pennsylvania, in one of his messages to the legislature, declared that:

The need of a suitable system of registration of vital statistics is also being constantly brought to the attention of the health authorities. In an enlightened community there live but few people of mature age whose birth, marriage, or death does not at some time become a matter for the cognizance and consideration of legal authorities. The attainment of majority with its rights and duties, the fact and date of wedlock, the inheritance or conveyance of property, parentage and nationality, place, date, and cause of death, and interment, and many other questions of a sociologic, economic, sanitary, or even historical character often assume much importance with reference to many of our citizens. In the absence

of a state system of registration many of the citizens are deprived of their legal rights or are enabled to deprive their fellows of their legal rights.

Dr. Arthur R. Reynolds, in a public address, alluded to the matter in the following words:

There is hardly a relation of life, from the cradle to the grave, in which the evidence furnished by an accurate registration of births may not prove to be of the greatest value, as, for example, in the matter of descent; in the relations of guardians and wards; in the disabilities of minors; in the administration of estates, the settlement of insurance and pensions, the requirements of foreign countries concerning residence, marriage and legacies; in marriage in our own country, in voting, and in jury and militia service; in the right to admission and practice in the professions and to many public offices; in the enforcement of laws relating to education and to child labor, as well as to various matters in the criminal code—the irresponsibility of children under ten years of age for crime and misdemeanor, the determination of the age of consent, etc. As the country becomes more densely settled and the struggle for existence sharper, many of these matters which have hitherto been of minor significance will take on a deeper meaning and acquire greater importance. Hence the urgent necessity for remedy of the defects which prevent a proper registration of births.

Dr. John S. Fulton, in a paper read at the meeting of the American Public Health Association, also speaks of the direct interest of the individual citizen as follows:

The private interest of the citizen in registration of births is indeed superior to his interest in registration of deaths, for a greater proportion of his privileges and immunities, rights and duties, turning upon the question of his age and his parentage, are definitely conserved by the registration of his birth.

Sanitary.—I am inclined to the view that the use of vital statistics for sanitary purposes is not subsidiary to their use for legal purposes. If the health of the people should be the chief concern of statesmen, as has been wisely, and, I think, truly said, and if a correct, efficient system of sanitary bookkeeping serves to increase, as well as demonstrate the value of measures tending to preserve and promote such health, the importance of registration, from a statistical standpoint, is greater than from the standpoint of the mere legal interests of an occasional individual, or the legal interests of the community as a whole.

Mr. W. A. King, former statistician of the Census Office, said:

The greatest utility of registration, as affecting the general public, consists in the availability of the data for tabulation and analysis for study of the agencies affecting health and disease; and, as stated by Dr. Elisha Harris, "The practical relations of well-kept and complete records of mortality to the correct estimation of sanitary experience and prevention of diseases and premature death are so important that sanitary authorities and the wise and effectual application of public health measures demand that the mortality registration shall be both complete and accurate." The statistical treatment of the data also demands that they should be uniform, so that the tabulated results may have their highest value for comparative and analytical purposes.

The Associated Health Authorities and Sanitarians of Pennsylvania, in 1904, adopted a resolution as follows:

Resolved, That the achievement of the registration of all births and deaths, with their causes, immediately after their occurrence and the prompt return of certificates from local registrars to the central bureau of vital statistics, thereby giving the sanitary authorities of the state timely information of the exact prevalence and distribution of disease, *is the most important of all sanitary meas-*

ures, and should unremittingly be urged until successfully carried out in every state in the Union.

Dr. Arthur Newsholme, author of a standard work on Vital Statistics, says:

The registration of the causes of death has given an immense impetus to sanitary work, and it is scarcely too much to say that modern sanitary science owes its existence to the registration of deaths, and their causes, and the localization of insanitary conditions, thereby insured. . . . And our knowledge of the facts bearing on health and disease has attained a precision never before known.

Dr. John S. Fulton, former Secretary of the Maryland State Board of Health, said:

Public hygiene is built upon, is controlled and directed by, and is in everlasting debt to vital statistics. The might and right to direct the future of preventive medicine, to make and terminate contracts, to approve and reject risks, to test materials and methods, to invest means and distribute profits, these things belong inalienably to vital statistics. Every wheel that turns in the service of public health must be belted to this shaft, otherwise preventive medicine must remain invertebrate and unable to realize the profits available from the magnificent offerings of collateral science.

If the unborn historian of hygiene of the twentieth century shall find one anomaly more curious than any other, it will be that the twentieth century, opening with prodigious resources, immediately available, ran a third of its course before these resources became so standardized that each unit of power might be accounted for in a definite scheme of vital statistics.

The sanitary engineer is confronted with insuperable obstacles when he attempts to obtain exact information in regard to the mortality from typhoid fever in Illinois, or even in the United States as a whole. This is alluded to by Whipple in his work on Typhoid Fever (p. xi), where he says:

The sanitary engineer, with his genius for mathematics and statistics, studies communities at large. The sanitary engineer therefore needs accurate mortality statistics. His recommendations for sanitary improvement must depend upon his knowledge of the local conditions, *and his work will be tested and compared with the results obtained by other sanitary engineers by means of mortality statistics—which may be worthless and misleading unless they are absolutely complete or at least very nearly so.*

Dr. J. N. Hurty, Secretary of the Indiana State Board of Health, says that:

The accurate collection, tabulation, and analysis of records of births, stillbirths, deaths, marriages, divorces and sickness may be said to constitute the bookkeeping of humanity. *It is fundamental to the* practical application of hygiene, *to secure* higher efficiency, longer duration of life, and fuller measure of happiness. Every pedigreed calf, colt, dog, rooster, ram or even cat, has its birth and death recorded.

A human being born in the image of his maker, endowed with an immortal soul, and who, according to the Constitution is endowed with "life, liberty and the pursuit of happiness," may be born, and die, without any public record, and frequently no private record of the fact. Prevention of disease, the highest form of scientific medicine, and the foundation of it, is vital statistics.

Surgeon George B. Young, of the United States Public Health and Marine-Hospital Service, says:

Vital statistics are the foundation of scientific public health work, which cannot begin without access to compilation of vital statistics.

Social.—Although practically all registration laws now in force in this country were due to the disinterested efforts of the medical profession, we must clearly recognize that this is not a doctor's problem and should not be left to them, any more than we should leave all questions relating to the public school system to the school teachers, or the question of agriculture to the farmer. It is the concern, not alone of the public health officer, the lawyer, the engineer, but a great social question. As Dr. W. H. Allen, of Pennsylvania, has so well said:

Whatever hurries or retards marriages, increases or decreases the number of births, or throws light on the causes of sickness and death, should be found numerically treated in the reports of local and state health authorities.

The object in gathering these social facts for analysis is not to furnish material for future historians; they are the facts collected with a view to *improving social vitality*, to raising the standard of life, and to eliminating permanently those forces known to be destructive to health. And again: The greatest service of vital statistics is their *educational influence*. Health officers cannot rise far above the standard of culture of those who provide the funds for administering the law. The tax paying public must have a belief in the economy and necessity of sanitation. Power and funds must come from town councils and state legislatures. To convince and move these keepers of the purse, reliable vital statistics are indispensable. The *socialization* of information always follows its dissemination.

Wherever vital statistics are wanting, sanitary administration is defective. Wherever they are complete, sanitary administration is efficient. Defective vital statistics and low ideals of cleanliness go hand in hand.

What do we know of infant mortality and of the value of instituted reforms for its prevention when not a single state or city in the United States has the data for a correct statement. We thus see that this is a great social problem which concerns not alone the physician, the sanitarian, the lawyer, the engineer, but every citizen of our great commonwealth and the benefits will accrue, not to the members of these professions, but to the people themselves.

For example, every black dot on the city or state map, marking the location of a baby funeral, would likely lead to the homes of the poor and might lead to the discovery of insanitary homes, improper milk supply, abundant flies, ignorance, poverty. The problem of social disease and our responsibility to it, is perhaps best appreciated when we see its effects and read its lessons in the death of one of these little ones. It would enable us to ascertain what percentage of births are attended by midwives, and a study could be made of the families, the financial condition, the question of how many of them cannot afford even the very moderate fee of a physician, the value and efficiency of infant welfare work, and would be of inestimable value to the Association for the Study and Prevention of Infant Mortality. Infant mortality, infant feeding, housing, milk supply, the midwives question, surely here are important social problems of tremendous importance, all having a definite relationship to, and being dependent upon correct vital statistics.

Births.—So much for deaths. The Turk said, in regard to the number of births in his country, "God alone can say; I don't know, and I hesitate to inquire." *After sixty years of effort, we must admit that we have no complete registration of births for even a single state, or even a single city in the United States; that we have only fairly accurate mortality statistics for the states above enumerated, representing 53.3 per cent. of total population, and that we have no reliable statistics of infant mortality in the United States, and that the United States as a whole, is not represented in International Vital Statistics.* In this regard we rank with China and Turkey.

In qualification of the above I might add that at the Fourth Annual Meeting of Life Insurance Presidents, held in Chicago December 10, 1910, Dr. Cressy L. Wilbur said:

> The same efforts should be made in all states that do not now possess satisfactory registration of deaths; or in which practically no systematic effort is made to *enforce* the laws for the registration of births, *and this means all of them with the exception of Pennsylvania, Ohio and Missouri, where the state registrars, acting under the model laws, are meeting with success in the first determined efforts ever made in the United States to enforce thorough registration of births on a state-wide basis and under state law.* Pennsylvania is the pioneer in this respect, and states that have been content to neglect their duties for many years are awakening to the necessity of more efficient administration. To show the growing interest in this matter I may quote the first recommendation adopted by the Advisory Board recently appointed by Commissioner Lederle to consider the vital statistics of New York City, to the effect that:
>
> The most important improvement which it is now ready to urge is—the adoption of the following means for securing the thorough registration of all births:
>
> 1. Verification of the birth registration of every infant dying under one year of age in order to detect omissions.
>
> 2. Strict enforcement of the law providing a penalty for an omission to record a birth in every case thus brought to light.

Concerning this question, and its importance, permit me to quote at length from a recent paper by Dr. F. D. Beagle, Director, Bureau of Vital Statistics, New York State Department of Health. He says:

> It seems impossible to impress upon the medical profession the necessity for making returns of births, many physicians apparently thinking that such returns serve no useful purpose and have but little significance outside of the family in which the birth occurs.
>
> The state aims, primarily, to protect the personal and legal rights of its citizens by establishing accurate records of births which can be relied upon to prove the important facts contained therein—facts which may frequently be insusceptible of any other proof. The claims of descent, proofs necessary for the inheritance of property, especially from foreign countries, the establishment of school age, age for lawful employment of children, age of consent, voting age, and many other requirements, can be drawn only from accurate birth records made at the time of birth or immediately after. Early notifications of birth are essential for the prevention of diseases, and the total number of births in a state or city is the basis of that most important ratio known as infant mortality. The full measure of protection to infant life cannot be extended unless all births are promptly registered, and all the vital statistics of the state are vitiated by the neglect or failure of physicians and midwives to obey reasonable laws for this purpose.

It is true, and must always be remembered, that the chief agency heretofore available to secure the enactment of vital statistics legislation has been the organized medical profession. Registration of vital statistics is medical work, and medical men have pleaded before legislatures for better laws for this purpose and have greatly aided in their administration. But when it comes to actual reporting of births, under laws of their own devising, the physicians of the country have been most delinquent.

ILLINOIS

Historical.—The history of vital statistics legislation in Illinois is both interesting and instructive. The act to create and establish a State Board of Health for the State of Illinois, approved May 28, 1877, provided for the registration of births and deaths. It became the duty of physicians and accoucheurs to report to the county clerk all births and deaths, coming under their supervision, with a certificate as to the cause of death and such relative facts as the State Board of Health might require in the blank form to be furnished by the Board. This act was a dead letter at all times in its application to reports of births, and was very laxly enforced in the matter of reports of deaths.

In their annual report to the Governor in 1900, the Illinois State Board of Health recommended the enactment of a law forbidding the interment or cremation of a dead body without a permit from some legally constituted authority; in other words, a law with a compulsory burial permit feature.

Governor Tanner, in his biennial message to the General Assembly in 1901, approved the recommendation of the State Board of Health. Accordingly, a bill providing for the registration of births and deaths, embodying a compulsory burial permit feature, was prepared by the Secretary of the State Board of Health and was introduced in the Senate by Hon. Pleasant P. T. Chapman of Vienna. After encountering some opposition, the bill finally became a law, and went into effect January 1, 1902. The law worked fairly satisfactorily during 1902, although it speedily became apparent to the State Board of Health that all reports of deaths were not being made and the law was not being enforced, especially in counties not under township organization. It was in these counties that the most formidable opposition to the enforcement of the law was found.

In February, 1903, bills were introduced in both the Senate and the House, in the former by the late Senator Burnett, and in the House by the speaker, Mr. Miller, repealing in its entirety the birth and death law of 1901. Further efforts were made by the Board, through its secretary, to prevent the repeal of the law. Finding that it was impossible to do this, the secretary made inquiries as to the nature of a bill that would be acceptable to the general assembly, and was informed that any bill that would eliminate the compulsory burial permit feature in rural districts would be assured of passage. The secretary, thereupon, drew up a bill which passed the house and senate without opposition or amendment, and is now the present law providing for the registration of births and deaths.

While this bill of 1903 was under consideration, the legislative committee of the Illinois State Medical Society, through its chairman, made inquiry into the matter and on February 28, 1903, Dr. Black wrote the secretary as follows, after stating that a member of the committee had had a long interview with Mr. Miller regarding the matter:

"We think that while it is somewhat of a loss to have the bill divested of the burial permit feature, that it will be the best policy, under the circumstances.

"From the standpoint of vital statistics, if there is a sufficient penalty attached for non-compliance on the part of physicians, it will be all right.

"There seems little doubt that all the opposition of the law emanates from the southern part of the state. I think the members of the legislature are unduly exercised on account of the fate of a candidate for congress in the southern part of the state, whose defeat is largely attributed to his having voted for this birth and death bill."

Here it might be pertinently stated that the candidate referred to by Dr. Black was Hon. Pleasant P. T. Chapman of Vienna, who introduced the bill of 1901.

No further attention was given to the matter by the legislative committee of the Illinois State Medical Society, although it was stated in the ILLINOIS MEDICAL JOURNAL for March, 1903, that "the friends of the law are willing to have the amendments made making it less burdensome, but all steadfastly oppose any more radical change."

The legislative committee was chiefly concerned in an attempt to secure the passage of a bill providing for a State Board of Medical Examiners, and no further attention was paid to the efforts made to repeal the law of 1901 or to institute retaliatory measures against the State Board of Health for its too active participation in an endeavor to prevent the repeal of the law.

It may be of interest that Hon. H. R. Fowler, who was a member of the senate of the Forty-third General Assembly, 1903, and who took such an active part in the repeal of the birth and death act of 1901, has just defeated Hon. Pleasant P. T. Chapman for Congress. It has been said that the bill of 1901 was made an issue, even in this campaign.

The law has many good features, but the fact that it is emasculated by the elimination of the compulsory burial permit feature and that the State Board of Health does not receive reports of all deaths, leaves Illinois out of the Registration Area. Notwithstanding the fact that in 1909, 62,867 deaths and 80,000 births were reported to the State Board of Health. This is a splendid showing under an unsatisfactory law and has been accomplished by the untiring energy of the Secretary, together with the co-operation of some of the physicians of the state. That the Board does not receive a report of practically *all* deaths and a much larger proportion of births, is due largely, to the negligence and indifference of physicians. It was a compromise measure, it was this or nothing, but it was the best that we could do at the time. Meanwhile other states were busy, other agencies were becoming interested and active, and the Census Bureau, especially through the Chief Statistician,

Dr. Cressy L. Wilbur, was carrying on a much needed agressive campaign of education, and in co-operation with the other agencies spoken of, especially the vital statistics section of the American Public Health Association, the legislative committee of the American Medical Association drew up a model Births and Deaths Law, with modifications to suit the different local conditions, and urged its passage by states not in the registration area.

In 1909 a bill was introduced in both the Senate and the House, but failed of passage, owing to the opposition from legislators, especially of those from the southern part of the state.

In order to do all in our power to secure for Illinois this much needed law, on December 9, 1910, a conference was held at the office of the President of the State Board of Health at Chicago. This conference was attended by Dr. Cressy L. Wilbur, Chief Statistician of the Census Bureau, Dr. Wm. A. Evans, Commissioner of Health, Chicago, Dr. M. O. Heckard, of the same department, Dr. F. R. Green, from the American Medical Association, Mr. E. R. Wright, President of the State Federation of Labor, Prof. Chas. R. Henderson, of Chicago University and representing the Society for the Study and Prevention of Infant Mortality, and the President of the State Board of Health. Dr. Geo. W. Webster was elected Chairman, and Dr. Chas. J. Whalen secretary of the committee.

A resolution was adopted, appointing a subcommittee which was instructed to invite the co-operation of the Bar Association and to "draft a bill regulating the Registration of Births and Deaths in Illinois, such draft to formulate the essential features of the Model Law approved by the American Medical Association, and the United States Census Bureau, and to report back to the committee."

Such a bill has been drawn up by the committee and will be introduced at the present session of the General Assembly. Such a law is recommended by Governor Deneen in his biennial message, read in the Senate January, 1911.

It has been urged that owing to the sparsely settled condition of parts of Illinois, the enforcement of such a law is not practicable. It is not necessary here to go to Japan or Chili or Finland or Ceylon to make comparisons. Just across the border to the east of us in Indiana and Michigan, and across the river in Missouri, such laws are in satisfactory, successful operation.

Half of the states in the registration area have fewer persons per square mile than Illinois.

CONCLUSION

It is the duty of the State of Illinois to see to it that at least the three principal events in the life of each of its citizens be made a matter of public record. These three principal events are birth, marriage and death. Illinois has spent forty millions of dollars on a Sanitary Canal, largely for the purpose of improving the water supply of some of her cities and chiefly for the purpose of diminishing the deaths from typhoid fever. To what extent has the typhoid death rate of the state as a whole

been affected? Nobody knows. We do know that in the city of Chicago, having accurate, complete death reports, that the death rate from typhoid diminished from 173 in 100,000 in 1891 to 15.6 per 100,000 in 1908.

Owing to the lack of an adequate system of sanitary book keeping, we don't know the actual annual death rate in the state, from typhoid fever, or any other disease, either before the canal was opened, or afterward.

What would you think of the business sagacity of a corporation that would spend forty millions of dollars on some improvement and then fail to keep a set of books that would enable it to know whether it was a paying investment or not?

For several years the State Board of Health has been engaged in a State wide antituberculosis crusade. And with what result? Nobody knows. We do not know the exact death rate from this disease and consequently are not in a position to correctly estimate the value of any or of all the methods instituted for its suppression.

The State Geologic Survey and the State Water Survey have done a splendid service for the State in showing the need of a better water supply and how to obtain it. What effect has it had upon the typhoid or other mortality? Nobody knows.

In Illinois the birth or the death of a blooded horse or a Jersey bull is at once recorded in a herd book, but the people of southern Illinois, through the voice of their chosen representatives, have gone on record as saying that it is too much trouble to obtain legal permission to bury their dead or to make a legal record of the event, and, consequently, in this state, outside of cities having ordinances with a compulsory burial permit feature, a human being may be placed underground without the slightest legal note or record. What a disgrace to our state that we should be found holding open the door for graveyard insurance. When a human being can pass, or *be sent* from this world to the next, without a single formality, inquiry into or record of the cause of the death, and the body buried like a dog, it is time we enacted and enforced a suitable law, if for no other reason, as a deterrent of crime.

The purpose of this movement for the extension of the registration area is to increase the number of registration states until the entire United States shall be represented by satisfactory, accurate, complete returns of births and deaths, and American Vital Statistics shall be entitled to rank with those of other civilized nations of the world.

The time is opportune. On this point Dr. Cressy L. Wilbur says: "There has never been greater harmony or a more sincere desire for helpful co-operation between the federal, state, and municipal registration offices, nor a more happy prospect for the coming of the time when vital statistics shall be recognized, in fact as well as in theory, as the absolutely necessary foundation of modern scientific public health service."

Illinois should not be slow to assume among the other registration states that station to which she is entitled by virtue of her geographical situation, her commercial, intellectual and public health supremacy.

Good laws are the expression of an enlightened public sentiment enacted for the protection of society as a whole, and not for any class, and another failure to enact a satisfactory births and deaths law in

Illinois will be greatly to the discredit of the intelligence and public spirit of the people of the state.

It is time that Illinois ceases to allow politics to interfere with her duties, and with the business sagacity, foresight, common sense and patriotism which have characterized her legislative acts in the past, enact and enforce such a Vital Statistics Law, which will, I am sure, ultimately pay immense dividends as a part of the State Public Health Service.

Practical success in our neighboring states has pointed the way, and we should not be slow to follow it. Let us emulate the example of Pennsylvania, a state having one of the poorest registration laws in the United States in 1905, and now, one of the best.

Finally.—For sanitary, legal, social, economic reasons, Illinois should prepare and enact, and then enforce, such a births and deaths law as will enable her to take her proper place among, not only foreign countries, but her immediate neighbors in the Registration Area, to the end that sanitary science be advanced, preventive medicine be improved, the legal rights of every citizen be better protected, a proper foundation be laid for the working out of many social problems of vital importance, the health of every citizen be better protected and life prolonged.

THE MATAS OPERATION FOR THE CURE OR ANEURYSM, WITH REPORT OF TWO CASES OF POPLITEAL ANEURYSM *

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CHICAGO

Mr. President and Members: The radical cure of aneurysm by the method described by Prof. Rudolph Matas in 1902 differs essentially from the old operation of Antyllus and former operations for the cure of aneurysm, by reason of the fact that Matas does not disturb or extirpate the sac except in so far as it may be necessary to open it by a free incision to evacuate its contents and freely expose its interior for the purpose of suturing the arterial orifices found within the sac, and to obliterate the sac by infolding and suturing its walls by superimposed layers, inverting the attached overlying skin with the sac walls and suturing the flaps thus formed to the bottom of the cavity so that no dead spaces are left and no complications are likely to arise as the sac is subjected to the minimum amount of disturbance, and no drainage is used or required.

The method is "applicable to all aneurysms in which there is a distinct sac and in which the cardiac end of the main artery can be provi-

* Read before the Chicago Medical Society, Nov. 2, 1910.

sionally controlled. It is especially applicable to all forms of peripheral aneurysms of the larger arterial trunks (carotid, axillary, brachial, iliac, femoral and popliteal)."

The principles which underlie the technic of the Matas operation are very simple and are based on well established histologic and pathologic data. The essential feature of his operation is that the aneurysmal sac is regarded as a diverticulum or prolongation of the parent artery with which it is connected, and that the lining membrane of the sac is a continuation or expansion of the endothelial intima lining the artery. In other words, the sac when fully formed is the analogue of serous cavities elsewhere both in a histologic and embryologic sense, and from a surgical point of view to be treated as other serous cavities. The fibrous adventitia and endothelial intima are continued as expansions of the pre-existing coats of the parent artery, so that for surgical purposes the sac, whether of traumatic or pathologic origin, can be regarded as a prolongation or expansion of the affected vessel.

The technic of the operation is as follows: hemostasis is secured in the ordinary method by the elevation of the limb and the application of the Esmarch elastic constrictor when the affected artery is situated in an extremity; when located in the neck or in a location inaccesible to the application of an Esmarch constrictor, pressure may be applied over the exposed artery by a Crile artery compressor or with a traction loop passed under the artery and held by an assistant, or the artery may be controlled by direct pressure with a suitable padded forcep. The sac is exposed by a long, free incision parallel to the long axis of the aneurysm, and by a careful dissection all important structures that might overlie its superficial surface are identified and pushed to one side until the sac is reached and recognized, when it is opened and evacuated of its contents, blood clots or organized lymph. After emptying and cleansing the sac carefully, search is made to discover any collateral branches or openings aside from the entrance and exit of the parent vessel. The interior of the sac is thoroughly but gently rubbed with sterile gauze to clear it of laminated blood clots, and this irritation by rubbing or abrasions causes it to unite more quickly when sutured. The suture material used may be either silk or chromicized catgut or fine kangaroo tendon. I give preference to chromicized catgut Nos. 2 and 3 introduced into a round full curved needle with a long eye similar to those known as Mayo's intestinal needles. Eight or ten sutures to the inch are sufficient to occlude the aneurysmal sac. Circular sutures are applied around the orifice of the arterial opening into the sac, and over these a second suture may infold the intima and *fibrous* coats over the first suture, just as we apply a Lembert suture in intestinal work. Then the walls of the sac are folded upon itself in the manner illustrated in this drawing which I now exhibit. Two or three superimposed layers of either interrupted or continuous catgut sutures will completely obliterate the aneurysmal sac, and then a long tension suture of silk may be placed through the skin and tied over a compress to approximate the superficial structures to the deeper layers of the sac and thus avoid

leaving any dead spaces. Ordinary interrupted silkworm sutures are used for completing the operation.

Then a firm compress of gauze and cotton secured by a roller bandage after enveloping the entire limb with cotton, and over all a light plaster-of-Paris cast is placed. Artificial heat is placed around the limb after completing the operation.

I report the following two cases operated on at the University Hospital as evidence of the advantage of the Matas operation over other methods of treatment for popliteal and other aneurysms.

CASE 1.—Mrs. Mary Treter, 60 years old, German nativity, entered The University Hospital July 11, 1909, with the following family history: Mother died aged 83 years of old age; father died aged 77 years from pneumonia. Two step-brothers died, one from complications following a fracture of the shoulder, the other killed in the Civil War. Has one sister living and well, aged 71 years. Patient had the ordinary diseases of childhood; malaria at the age of 21; rheumatism at the age of 40 and up to the present time at intervals. She was married at the age of 18. Has borne nine children, eight living and well; the other child died at birth.

Present trouble. Began about two months before entering the hospital, when she noticed a throbbing lump in the popliteal space of the left leg which caused her a great deal of pain on motion of the leg when walking or exercising. The lump grew larger very rapidly, and as it increased in size the pain became very severe and it was impossible for her to obtain sleep on account of the constant pain. The slightest motion caused increasing pain. She was operated on July 12, 1909.

I found a large sacculated aneurysm of the popliteal artery, the sac containing laminated blood clots and some free blood. The technic of the operation that I have described was carried out in all details, as you see illustrated in these drawings. She made an uneventful recovery and left the hospital July 27, and has remained perfectly well since. (She had also an aneurysm of the ascending arch of the aorta, which I treated by the introduction through a hollow needle of a coil of steel wire which remained in the aneurysmal sac for several days, when one day she complained of a prickling pain in the shoulder, and I found the end of the wire presenting under the skin near the acromion process of the scapula, where I made a slight incision and removed it. The irritating presence of the wire in the sac seemed to have induced an adhesive endarteritis, for the walls of the sac became very much thicker and denser, and the pulsations less marked in the aortic aneurysm.)

(Her husband, Charles Treter, aged 64 years, about six months ago developed aneurysm of the abdominal aorta just below the diaphragm. I made an incision through the abdominal wall over the aneurysmal sac, hoping to be able to compress the aorta above the aneurysm and treat it after the Matas method, but found it impracticable on account of my inability to control by pressure the circulation in the aorta above the aneurysm, as it extended up to or through the diaphragm; so I contented myself with introducing through a hollow needle a coil of silver wire, which still remains within the aneurysmal sac, but up to this time has made no material change in diminishing the size of the sac or arresting pulsation, although the sac wall seems firmer and harder and he has resumed light work.)

CASE 2.—Mr. William M. Rogers, locomotive fireman, aged 31 years, American nativity, entered The University Hospital on August 12, 1909, with the following history:

Mother living and well; father died, aged 56 years, from Bright's disease; two sisters are living and well; one sister and one brother dead. Cause unknown.

Patient had ordinary diseases of childhood. About one year before entering the hospital noticed a dull, aching pain in the back part of his left knee joint,

which began to grow worse, and finally became so severe that he was obliged to give up his work entirely. After a few days' rest he would feel better, but upon attempting to resume work the pain became so severe that he was obliged to give up altogether. On entering the hospital a small tumor behind the left knee joint which pulsated with expansile pulsation, was detected on deep palpation, and a diagnosis of popliteal aneurysm of the fusiform type made. He was operated on August 12 by a long incision parallel with the axis of the fusiform aneurysm in the popliteal space. Sac was opened; the distal and proximal ends of the artery ligated with No. 2 catgut. Two small vessels entering the sac were also ligated, and two small ulcerated areas, probably syphilitic endarteritis, were found. Sac was obliterated by interrupted sutures of No. 2 chromicized catgut, doubling it upon itself in the manner described. Over these two superimposed layers, rows of sutures were placed, and the further steps of operation were the same as described in the first case. He also made an uninterrupted recovery, and left the hospital on August 26. Some swelling of the foot and leg persisted for several months, but eventually disappeared, and he resumed work some four months subsequently. After working on a farm for a few months he resumed his former occupation of driver of a delivery wagon.

In reporting these cases and refreshing your memories with the technic of Matas's operation, I desire to add an expression of my sincere admiration for the author of the method, and to emphasize the conclusions drawn by him that the advantages of a radical cure of peripheral aneurysms by suture of the orifices and obliteration of the sac instead of by ligation of the artery, will be recognized in the new statistics of the operation.

THE LEUKOCYTES IN THE DIAGNOSIS, CLASSIFICATION AND PROGNOSIS OF PULMONARY TUBERCULOSIS*

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Nowhere in clinical medicine have the shortcomings of physical diagnosis been more evident or more distressing than in the field of pulmonary tuberculosis. Not only have we not been able to recognize pulmonary tuberculosis early enough, but also in the diagnosis of the extent of these tubercular lesions have we failed in the great majority of cases. The medical profession has been keenly alive to this double problem for the last 75 to 100 years, and the works of Skoda, Auenbrugger, Gerhard, Louis and Laennec prove distinctly that our medical forefathers were impelled by this one great motive, namely, the diagnosis of the presence and the extent of tuberculosis of the lungs.

With the advent of Villemin, of Robert Koch and his contemporaries a light of hope seemed to illuminate the difficult subject and the bacteriologic diagnosis was thought to remove all obstacles. Tracing these noble endeavors down nearer to our days, we witness the discovery of tuberculin by R. Koch, the work of Baumgarten and his assistants, the recognition of the state of anaphylaxis by Chas. Richet, the vaccine theory of Douglas and Wright, the serum disease of von Pirquet and

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*Read at the Sixtieth Annual Meeting of the Illinois State Medical Society at Danville, May 18, 1910.

Schick, and the introduction of various perfected tuberculin reactions, such as the ophthalmic, the cutaneous and the percutaneous tests.

Around these subjects there has grown up a gigantic literature and the mere reading of its bibliography alone would be sufficient to wither the enthusiasm of the staunchest idealist, were it not for the great and inspiring fact that into this enormous, apparently labyrinthian collection of systems of facts, there runs like the thread of Ariadne, the desire for the early diagnosis of pulmonary tuberculosis.

In every land of the globe, untiring students have worked individually or in groups with this great purpose in mind against many odds at the bedside or in the laboratory. Yet in spite of remarkable advances our harvest of practical results has been scant. Indeed some of us have become discouraged and not a little pessimism has developed within the last few years even among sanatorium physicians.

The various tuberculin tests are extremely valuable in the diagnosis of tuberculosis, but they furnish only very little evidence as to the extent of that particular tuberculous affection of the lungs. Every clinician is aware of the fact that he is unable by inspection, percussion and auscultation alone to diagnose to his own satisfaction whether or not there is any infiltration of one or both of the lung-apices, presence or absence of any cavity. Briefly stated, we are unable to diagnose the three stages of Turban by the usual physical diagnostic means alone. Our knowledge as to the extent of pulmonary lesions in tuberculosis is still very fragmentary and it is with the purpose of filling the gap in our chain of evidence that I write this article, the substance of which is an attempt on my part to prove that a method of repeated, *combined* clinical and hematologic examinations, is essential in the diagnosis of the extent of pulmonary tuberculous lesions. After I shall have proven that by repeated total and differential leukocyte counts one is able to measure the degree of anatomic lesions and the degree of biologic or lymphatic tissue resistance to the invading germ or germs, the practical application of this will be easy and logical *de facto*.

The classification of pulmonary tuberculosis will then evidently be easy, its prognosis more nearly accurate, and its treatment more in conformity with accepted facts.

General Remarks.—From actual experience and from the literature, I conclude that the study of the leukocytes in the course of tuberculosis of the lungs has never been seriously undertaken. Individual, spasmodic efforts are recorded in a number of publications in the last few years. Findings have been so adverse to explanation, and in appearance so contradictory that enthusiasm gave way to disappointment in the workers themselves and produced skepticism among medical men generally. Blood findings have been considered as irrelevant, misleading and grotesque. Changes in the total white blood count were called accidental even by leading men in the profession, and the differential leukocyte counts were made so rarely that the vast majority of physicians did not know how to make them and do not know even to this day. Is it a wonder then that this source of information has been neglected so long and "its current turned awry?" I can easily see that ignorance and not wilful intention has led to this neglect. But how came this state of ignorance about? Here are several reasons:

1. Bacteriologists and anatomo-pathologists have so swayed medical opinion these last three or four decades that the morbid agents or agencies have been considered alone and to the exclusion of the host. Invasion by germs became synonymous with infections and tissue reactions were attributed only to the invading toxin or infectious agents. Parasitism usurped the field and the vital resistance of the animal cell was lost sight of. In the wake of otherwise brilliant bacteriologic discoveries the medical world seemed to lose its traditional conservatism and thought itself near the solution of the riddle of the universe. Scientists wove into their reasonings the Darwinian theory and considered man as a play tool of elements or at the pitiless mercy of countless bacteria, while forgetting the eternal truth that man is immortal were it only by his protoplasm. Such views obscure our horizon and retard our progress.

2. Over and over again we lose sight of the fact that (a) the red blood cells serve for respiration only. Both pulmonary and cellular exchanges of gases are transmitted through their agency. They are but very little involved in infections. (b) That the leukocytes subserve nutrition *and* immunity.

3. We must accept it as a fact that all leukocytes develop from one mother cell, the lymphagon or lymphoid cell. The various forms of leukocytes encountered normally in the bloodstream represent the same cell only under a different form, which are nothing but the four to five different stages of its life cycle, the polymorphonuclear cell being geneologically the oldest white blood cell.

4. We can rationally assume that the function of a white blood cell changes with its form, respectively with its stages of development. I believe the mononuclears serve for slow, deliberate phagocytic defense and digestion of noxa, while the polynuclears serve mainly as chemical, or immediate, or specific defensive agents. The rôle played by the eosinophilic polymorphonuclears in immunity is a very important one, but still far from being clear. The basophilic cells are a form of immature, atavistic, large mononuclears without any particular function.

5. The leukocytic granules brought into such prominence by Paul Ehrlich that they have been given his name, have been exalted beyond their proper biologic importance. These histo-chemical observations, though very ingenious and even brilliant, have very materially encumbered the progress of leukocytology and by a technic with phantastic blood stains have changed hematology from a biologic study into one of experimental and speculative chemistry. The function of leukocytes is certainly not alone the production of granules, but also nutrition and defense of the cells. Just how they accomplish these two things neither the lateral chain men or anybody else knows.

6. It is also quite rational to assume that an increase in the total number of leukocytes, or an alteration in the proportion of these cells corresponds to a change in the body fluids in which the mesoblastic tissue cells are bathing. That this response to a toxic or a toxi-infectious agent should manifest itself in a variation of the number and proportion of white blood cells is the most logical thing we could expect.

7. A leukocytosis means the increased production of leukocytes in the leukogenic or leukopoietic tissues and their pouring into the bloodstream.

8. A polynucleosis, which usually is associated with a leukocytosis, I explain as an expression of an agency which enormously hastens the maturation of mononuclears into polynuclear leukocytes. This excessive

TABLE I.—THE LEUKOCYTES IN HEALTH AND IN PULMONARY TUBERCULOSIS

	Polynuclears Pr. Ct.	Small Mononuclears Pr. Ct.	Large Mononuclears Pr.Ct.	Eosinophils Pr.Ct.	Total.
Children (35 cases)	47	46.5	3.5	3	6,000
Adults (25 cases)	64.2	29.4	4.2	2.2	7,600
Pulmonary tuberculosis—1 (130 cases)	53.5	39	4.5	3	4,600 to 7,000
Pulmonary tuberculosis—2 (30 cases)	67	25.5	5.5	2.5	8,000 to 10,000
Pulmonary tuberculosis—3 (160 cases)	79.6	14.5	4.7	1.2	9,000 to 16,000
Acute pyogenic infectious diseases (72 cases)	86	8.5	5	.3	12,000 to 50,000

Notice large percentage of small mononuclears in childhood and in incipient pulmonary tuberculosis.

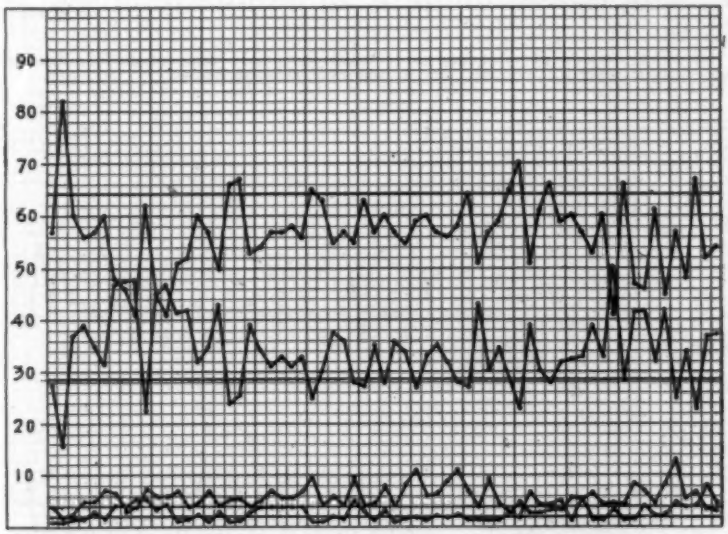

Chart I.—Sixty-five differential white counts in eleven cases of incipient pulmonary tuberculosis. Note the high percentage of small mononuclears with low polynuclears. (See Chart 5.)

production of polymorphonuclears is necessary for the rapid neutralization of toxins, a condition met with in most of the acute intoxications or acute infections.

9. The eosinophils disappear in acute infections and reappear with the advent of antibodies. Their function seems to be the storing and protection of ferments necessary for immunity mainly. Their granules contain the principal ingredients for antibody formation.

10. My method of this interpretation of a leukocyte picture is of real value in the diagnosis of the various infections, acute or chronic.

The leukocytes *do not* react in a *specific* manner to any single infective germ or any one single toxin, but they do react in a quasi-characteristic manner to certain *groups of germs* and to certain *groups of toxins.* Thus the reactions toward the pyogenic infections differ from those of the

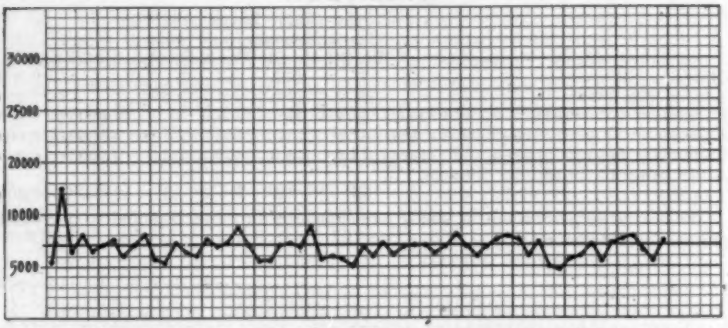

Chart II.—Total white counts in incipient pulmonary tuberculosis. Leukocytes mostly below normal. They rise only on "colds" or other infections.

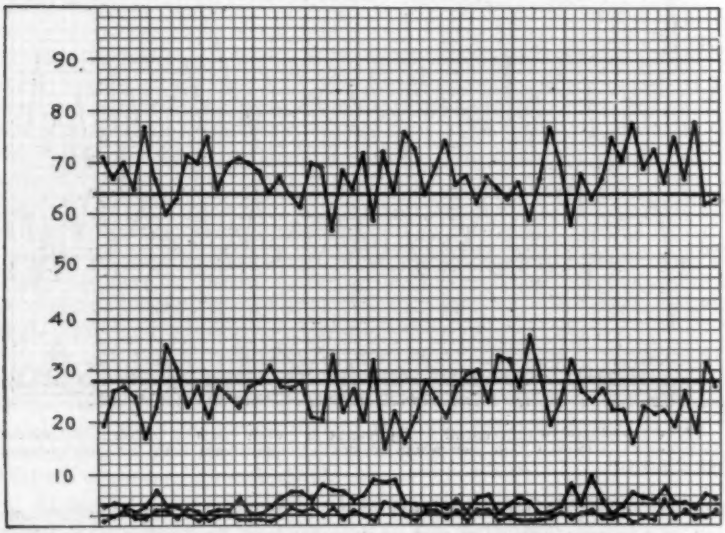

Chart III.—Sixty differential leukocyte counts from ten patients with pulmonary tuberculosis in second stage. Compare with Chart 6. Note the divergence of the polynuclear line.

typhoid or colon bacillus group, and they react in a peculiar manner towards the tubercle bacillus or its poisons. Indeed, the leukocytology of tuberculosis is based upon this very fact. The white blood picture of tuberculosis corresponds exactly to the cellular changes in tubercular tissue. It is only natural that the blood as a fluid tissue should behave

towards irritants like any other mesoblastic derivative. Viewed from this biologic standpoint, the use of the leukocyte picture obtains the significance of a biopsy and assumes a positive diagnostic and prognostic value. Inflammatory changes in the leukocyte picture correspond exactly to the histologic alterations in the same conditions. Acute infections will differ

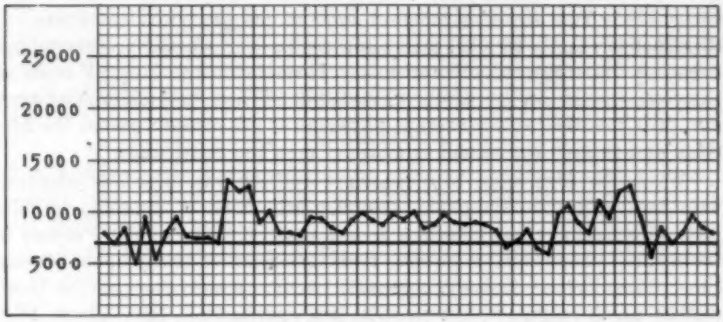

Chart IV.—Total leukocytes in pulmonary tuberculosis, second stage (the caseous or necrotic stage. Corresponds to Chart 3. Total numbers nearly always above normal average.

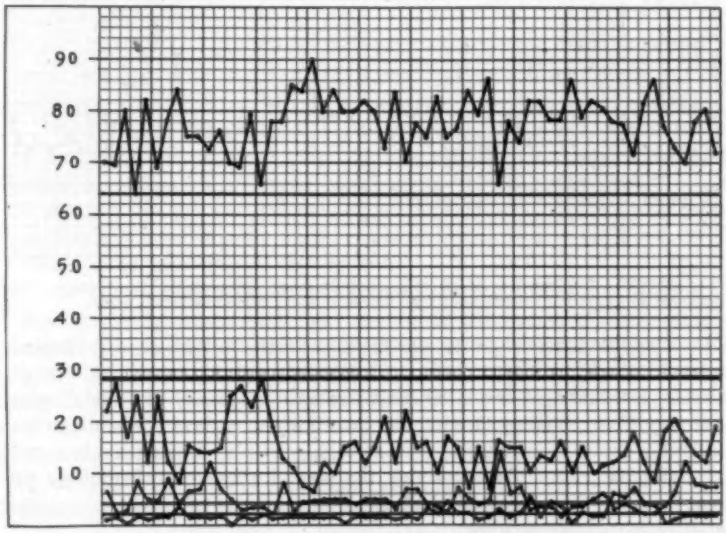

Chart V. Leukocyte picture of pulmonary tuberculosis, third stage. Sixty differential counts. See Chart 7. Note the high polynuclears and the very low, small mononuclears.

in their effects on the white blood from those of a chronic nature. This is also self-evident.

Any cell when irritated tends to assume again embryonal characters in the way of form, histo-chemical reactions, nuclear and protoplasmic

changes, etc. The leukocytes make no exception to this general law of biology. Thus during the first or incipient, or lymphangitic stage of pulmonary tuberculosis, the leukocytic picture tends to and does return towards the infantile white blood picture with a predominance of mononuclears, a leukopenia, a slightly increased eosinophil percentage, greatly lessened neutrophil, and a normal red blood count. (See Chart II). *This explains the first stage* of pulmonary tuberculosis. It corresponds exactly to what many authors have called the pretuberculous stage, or the stage of chloranemia. Henceforth the clinical term of chlorosis should be gracefully eliminated. When tuberculosis becomes clinically manifest to the average physician it has already passed the first stage and entered the second or at times even the third stage.

When the first stage of pulmonary tuberculosis, which is identical with the infiltrative lymphoid, lymphangitic stage of anatomo-pathologists (Petruschky) has passed, a second stage of tissue changes occurs in the form of cheesy foci or caseous transformation of the lymphoid tubercles. This has its leukocytic parallel in the appearance in the blood picture of the signs of intoxication and irritation. (See Chart IV).

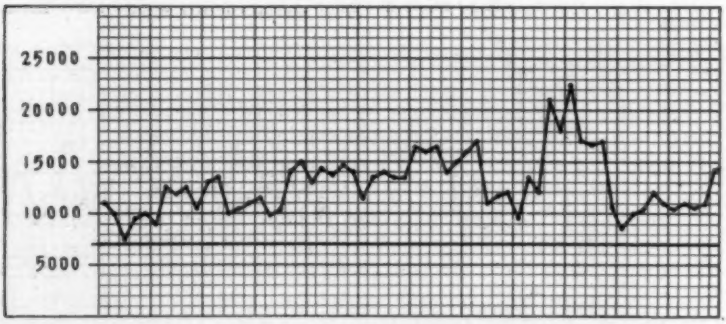

Chart VI.—Total white blood cells in pulmonary tuberculosis, third stage. Corresponds to Chart 6. Counts nearly all above 10,000. Mixed infection stage.

More polynuclear elements, less mononuclears, instead of a leukopenia, a small or relative leukocytosis, and lessened eosinophils, clinically night-sweats, hemorrhages from the lungs, greater frequency of "colds" which are very likely nothing else but the intermittent outbreaks of anaphylaxis in which external influences, such as cold, may play a subordinate though ill definable rôle. This explains the second stage of tuberculosis pulmonum. We have here the leukocytic counterpart of distinct secondary anatomic or tissue changes.

The accession of a second infection to a primary one will also and naturally produce changes of its own, which are superadded to the signs of irritations already present. This explains the leukocytic picture (Chart IV) of the third stage of pulmonary tuberculosis, which really has less to do with the tubercle bacillus than either of the first two stages. Louis said, over sixty years ago, before the findings of Koch were dreamed

of: "Your patient may be tuberculous, but be careful lest he become phthisical." The third leukocytic stage corresponds exactly again to the cellular tissue changes produced in the course of any chronic pyogenic infection which has been added to previously existing infective granuloma of which tuberculosis is the type. The blood picture shows us that the third stage of pulmonary tuberculosis has really little to do with the tubercle bacillus. It is essentially a pus infection, and the treatment, therefore, should be surgical, opening and drainage. The time will come when the surgery of the chest shall have so advanced as to successfully undertake the cure of these at present hopeless cases.

CONCLUSIONS.

1. Five or six successive, double white blood counts taken at intervals of at least two to three days constitute the leukocytic picture of a case of pulmonary tuberculosis.

2. No diagnosis of tuberculosis is complete without this blood picture.

3. Turban's classification is therefore in need of modification.

4. For the prognosis as to health or as to life this blood picture is essential.

5. A return towards the infantile blood type is a good prognostic sign, while a decline towards the acute pyogenic disease blood-type is of unfavorable omen.

6. The fairly constant maintenance of a certain level is one of the most striking characteristics of these blood pictures; that is, of their leukocyte curves.

7. Incipient tuberculosis of the lungs is anatomically represented by a small cell infiltration, a lymphoid, or lymphangitic process which shows itself in a parallel, infantile blood picture, the essentials of which are a lessened number of total whites, a lymphocytosis, slightly exaggerated eosinophils, a tendency towards crises of mixed leukocytosis, normal red blood count, and normal hemoglobin.

8. The second stage of lung tuberculosis established pathologically is constituted by tubercles which caseate in the course of their development. Thereby they produce the second clinical, or tuberculo-toxic stage, which is characterized by a blood picture of toxemia: moderate polynucleosis without corresponding leukocytosis, absence of lymphocytosis due to the predominance of toxemia, lessened eosinophils, and very little tendency to lymphocytic crises.

9. The third stage of pulmonary tuberculosis corresponds anatomically to cavity-formation, together with mixed infection, or to a caseous tuberculous pneumonia. The leukocyte picture of this stage combines the attributes of a chronic streptothrix or granulomatous infection, with that of a pyogenic germ invasion. The sapremic and pyemic processes outweigh the lymphangitic and caseous changes. This is very well exhibited in the leukocytology of this stage, the characteristics of which are: moderate leukocytosis, marked polynucleosis, greatly lessened lymphocytes, increase of large mononuclears, decrease or absence of eosinophils,

frequent exacerbations of chronic intoxication. Among the red blood cells we remark lessened hemoglobin, lessened total reds, and more or less evidences of exhaustion or of marked stimulation of the hematopoietic tissues. (See Charts IV, V).

10. Five years of work among tuberculous patients justifies the conclusion that tuberculin is indicated mainly in the first stage and most useful therein, that in the second or toxic stage it is difficult and hazardous to administer tuberculin in any of its forms, partly because of the hypersusceptibility of these patients and partly because these patients are steadily being auto-inoculated by tuberculin-like substances from the cheesy degeneration of the tubercles. I have never seen positive or lasting results from the use of tuberculin, due to administration in the third stage of tuberculosis. In my opinion it is useless in the third stage, and in all probability harmful.

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DISCUSSION

Dr. E. H. Butterfield, Ottawa:—We are certainly very much indebted to the essayist for his contribution entailing as much work as it must have done. In routine blood examinations the absence of leukocytosis is of great significance, especially in early tuberculosis. If leukocytosis occurs during the course of pulmonary tuberculosis, it is strongly indicative of complications and usually borne out by clinical symptoms. It is also well to remember that in all pyogenic infections either associated or not with pulmonary tuberculosis, especially the formation of abscesses, inflammation of serous membranes, leukocytosis is great. Tuberculosis associated with suppuration means a predominance of the polynuclear elements with leukocytosis. Since no single sign or symptom is pathognomonic of early tuberculosis, we deal largely with averages, and leukocytosis is placed on a par with other data in making a diagnosis. In the majority of cases the presence or absence of leukocytosis stands for more than ordinary data, but standing as an isolated fact it gives us nothing. Considering it in relation to other data, the number of leukocytes is important, as well as the blood picture shown by the differential count.

ON HEMOLYTIC JAUNDICE*

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From early days the conception of two varieties of jaundice has prevailed, one form depending upon a disturbance of hepatic functions and the other upon changes in the blood.

Castaigne quotes Bianchi (1710) as saying: *"Sunt duo primarii icteri genera; primae classis icterus a vitio hepatis, alterius speciei icteri a causa solutione sanguinis."* Reil (1792) describes polycholic jaundice due to an abnormal bile production by a direct transformation of the blood. The studies of Naunyn, Stadelman, Minkowski, Stern, Chauffard, Girode,

* An address delivered before the Chicago Medical Society, Nov. 16, 1910.

Banti and others have led to the general acceptation of the conception that the so-called hematogenous jaundice in contra-distinction to the hepatogenous is hematogenous only in its remote origin, in so far as it is primarily the result of increased blood destruction. The immediate cause of jaundice is still generally regarded as of hepatic origin. In support of this idea it has been pointed out that those jaundices which result from increased blood destruction are at the same time associated with an excessive bile formation as shown by the usually large amount of bile in the feces. These so-called pleiochromic jaundices have generally been regarded as dependent on increased blood destruction, excessive bile formation, inspissation of the bile, intrahepatic stasis followed by entrance of bile into the general circulation. One might fancy, as suggested by Minkowski, that the jaundice in some of these cases was due to a perversion of the functions of the liver cell, through which that substance which is normally secreted into the bile ducts, namely bile, takes the place of or accompanies those bodies which the liver ordinarily pours into the blood and lymph, *i. e.*, sugar and urea—the process occurring without definite obstruction. However this may be, the idea of a hematogenous jaundice in this sense would appear to be generally accepted. And examples, such as the jaundice seen after large internal hemorrhages, that associated with pernicious anemia and that which occurs after acute deglobulizing poisons, are too familiar to mention.

It was early noticed that in certain non-obstructive jaundices no bile pigment appeared in the urine which, however, contained other pigments giving it a high color. This observation led to the long disproven hypothesis that such conditions might be examples not of a true bilirubin jaundice, but of the entrance into the blood of some other chromogenic product of the diseased hepatic cell. The frequency with which urobilin is found in the urine in this so-called acholuric icterus tended to fortify in the minds of some observers (Gerhardt, Hayem and Tissier) the conception of an ortho- and a meta-pigmentary jaundice. The coloring matter in these instances of meta-pigmentary jaundice which was shown to be urobilin, was, by many, regarded as the product of a perverted hepatic metabolism.

Whatever the frequency of urobilin in the urine in these cases of acholuric icterus, Gilbert appears to have shown that all jaundices are due to the presence of true bile pigments in the serum. Gilbert, and his associates and students have devised a delicate colorimetric test by which they believe that they can demonstrate the presence of bile in the serum of all healthy human beings in very small but yet recognizable quantities. The average proportion they estimate at about 1/30,000. Under pathological circumstances the amount may rise to such an extent that it may equal or exceed the proportion of coloring matter in normal bile.

While the idea of ortho- and meta-pigmentary jaundice must be abandoned, yet non-obstructive jaundice may well be divided into choluric and acholuric varieties according to the presence of or absence of bile pigment in the urine. The reason for the presence of bile in one

case, and its absence in another and the significance of urobilin are matters of present controversy upon which one can only touch at this point.

In general the acholuric jaundices are not very intense and it may be true that the absence of bile in the urine is dependent merely upon the quantity of bilirubin in the circulation. It is unquestionable that in some cases of hematogenous non-obstructive icterus, bile pigment does appear in small quantities from time to time in the urine. As to the significance of urobilin, it has been suggested that it is the result of an excessive secretion of bile into the intestines. The increased quantity of stercobilin is in part reabsorbed and, not wholly arrested by the liver, is eliminated by the kidneys as urobilin. The amount in the circulation is, in most instances, too small for recognition unless it be present in the form of a chromogen (Chalier). It is absent in obstructive jaundice, probably because of the absence of bile in the intestine.

Aside from frankly obstructive jaundice the conditions under which icterus are observed are exceedingly numerous, so much so as to lead to many and confusing classifications. In the main these conditions are associated with severe intoxications or infections—and the jaundice is probably often the result of infective cholangitis or of degenerative changes in the hepatic lobule which result in the entrance of bile into the circulation. In other instances such as pernicious anemia or paroxysmal hemoglobinuria, a primary hemolysis plays certainly an important part. Of recent years attention has been especially directed to an interesting group of cases in which a primary hemolysis is assuredly the initial event in the development of the icterus.

Gilbert and his pupils have described as chronic simple jaundice a condition seen often in groups of members of certain families in which the affected individuals show a slight jaundice of the skin and perhaps of the conjunctiva, and a cholemia considerably more marked than in the normal individual. The urine contains no bile but is usually rather concentrated and gives a positive test for urobilin. In these cases which occur often in individuals suffering from superacidity, bradycardia, hypothermia, and frequently with general neurasthenic symptoms, there is a constant excess of bilirubin in the serum above the normal, that is, usually a proportion of about 1/17,000. The condition, in other words, would appear to be an exaggeration of the physiological cholemia.

In addition to these cases of chronic simple jaundice Gilbert has, however, described others in which there is a distinct splenomegaly. Now these instances of chronic congenital jaundice with splenomegaly, several examples of which have been described by English authors (Murchison, Wilson), are not unlike the chronic, splenomegalic, non-obstructive jaundice described by Hayem in 1888, a malady which he believes to be of infectious origin.

Beginning with the observation of Minkowski (1900) a series of studies have drawn attention to these cases of congenital jaundice with splenomegaly. Minkowski (1900) describes a remarkable syndrome of congenital jaundice associated with urobilinuria, splenomegaly and side-

rosis of the kidney. The occurrence of these symptoms could be traced through three generations, affecting at least eight members of the family. None of the individuals observed showed any changes in the blood, while the general health was not impaired.

Bettmann in the same year, described a similar case in which the jaundice displayed marked variations in intensity, deepening after exercise, food, drink, and excitement, especially anger, and also after exposure to cold. An experimental hemoglobinuria could be produced in this case by the application of cold.

Pick (1903) and von Krannhals (1904) reported like cases, the latter having observed a family of which nine members in three generations showed a chronic, congenital splenomegalic jaundice. In all these cases the stools were colored, the urine dark, free from albumin, blood and hemoglobin. It showed constantly the presence of urobilin, but never bile. The number of red corpuscles was below normal—2,300,000 and 3,500,000 respectively in the men, and on one occasion as low as 1,000,000 in one of the women. The hemoglobin varied from 55-65 per cent. The red blood corpuscles were irregular in contour and varied in size from 6-10 microns. There were no nucleated reds, but well-marked polychromatophilia.

Minkowski was fortunate in obtaining a necropsy on one of his patients. No especial changes were found in the liver, and the bile passages were quite clear. A small pigment stone was found in the gall bladder. The spleen was enlarged and, microscopically, there were simple hyperplasia and hyperemia. The kidneys showed a brownish discoloration produced by a granular pigment deposit in the epithelial cells of the convoluted tubules. Not only did this pigmentation give an intense reaction for iron, but there was a large amount of material united with proteids, which gave the reaction only after boiling with ammonium sulphid. From but one kidney about 0.95 grams of pure iron was obtained. Similar pigmentation did not occur in any other organ. Minkowski regarded the condition as dependent on an anomaly of the blood pigment transformation, perhaps consequent upon a primary change in the spleen.

These cases seem to bear a striking resemblance one to another and suggest a common cause. The absence of evidence of hepatic disease and the existence of extensive siderosis, especially of the kidney, in some respects analogous in that seen in Addisonian anemia, on which Hunter especially has insisted, pointed to an increased blood destruction as a primary cause of the disease—an hypothesis adopted by most of these authorities.

In 1907 Chauffard made an interesting contribution to the study of this syndrome by the discovery in a similar case, of a marked fragility of the red blood corpuscles on exposure to hypotonic solutions of sodium chloride according to the method of Vaquez and Ribierre. This observation he was able to confirm in two patients presenting a similar syndrome in the wards of his colleague Widal. Thus, while with the normal red blood corpuscles hemolysis begins at 0.44 and is complete at .32 per cent., in these three cases the beginning and end of hemolysis were respectively

.62 and .36, .66 and .34 and .52 and .18 per cent. The average size of the red blood corpuscles was somewhat diminished. Widal and Philibert on further study, were unable to demonstrate the presence of any hemolytic properties in the serum of their own patients, either with regard to their own corpuscles, or those of other individuals. This fragility of the red blood corpuscles, so marked toward hypotonic salt solutions was also evident in respect to other hemolytic substances. The diminished resistance of the red blood corpuscles has been a constant feature in the considerable number of cases of this malady which have since then been reported.

A few months later Chauffard described another interesting hematological feature which he had observed in all cases of this disease which had come under his observation, namely: the presence, on vital staining, of a peculiar basophilic granulation of the red blood corpuscles. Chauffard's first studies were made by staining freshly-made and fixed smears of blood with Pappenheim's (pyronin and methyl-green) solution. Many of the red blood corpuscles which are of a slightly grayish color and barely visible, having lost their refractiveness with their hemoglobin, show a fine granulation of a bright red color. These dots, generally arranged about the periphery, are sometimes scattered throughout the cells in the form of a definite granulation. The granular corpuscles are generally somewhat larger than their neighbors; they may be demonstrated well by the method of vital staining of Widal, Abrami and Brulé.

Four to six drops of blood are allowed to fall into a test tube containing 10 drops of a basic coloring matter which is quite isotonic and contains in addition oxalate of potassium to prevent the coagulation of the blood.

Oxalate of potassium, 2%, 2 c.c.
Unnas' polychrome methylene blue, 10 drops } Δ=0.60

The fresh corpuscles are allowed to remain for 10 to 20 minutes in contact with the solution, after which the mixture is centrifugalized, the supernatant fluid is removed, and the corpuscles drawn up with a pipette and placed upon slides upon which they are spread as an ordinary drop of blood; the covers are then dried and fixed by heat. Such preparations may be indefinitely preserved.

The distribution of the granules is irregular. Sometimes scattered, they are usually collected in groups of two and three. Sometimes they are arranged in the form of a wreath or crown at the periphery of the corpuscle; they are generally distributed in such a manner as to suggest filaments wound around within the cell and showing frequent varicosities; they are unequal in size and of irregular form. Not infrequently this granular net-work is gathered together toward the periphery or near the centre of the cell in such a manner as to suggest grossly a nucleus.

Sabrazès has called these corpuscles "granulo-reticulo-filamentous." The apparent "reticulum" is very adherent to the red blood corpuscle. If a dried and stained specimen be washed with pure water, the red blood corpuscles lose their blue color, while the granular filamentous appearance remains. Indeed, in some cases the reticulum may be found outside the

corpuscle, lying between other well preserved elements. Widal, Abrami and Brulé have thought that the polychromatophilia which is present to a certain extent in these cases bears a close relation to the presence of granular corpuscles, but this does not appear to be an absolute rule.

I have gone into this question of granular corpuscles rather fully as it is interesting to see how closely these observers agree in their account with the careful studies of Vaughan in 1903, for many of those present have doubtless recognized before this, the granulation which, though first described by Pappenheim,[1] was studied with especial thoroughness by Victor C. Vaughan, Jr., in the *Journal of Medical Research* for 1903. Vaughan found these granular elements in somewhat under 1 per cent. of all corpuscles in normal individuals, and in the new-born where they were most frequent, the highest percentage with but one exception (7) was 4. In pernicious anemia with active regeneration they were found in great numbers—once as high as 18 per cent. In congenital icterus with splenomegaly the percentage is usually over 10, and figures as high as 40 have been reported. Chalier, however, in his excellent monograph, is inclined to regard these figures as excessive, asserting that he himself has never seen a percentage above 20. This granulation, it is needless to say, is quite distinct from the basophilic granulation of Grawitz and others. The granules are different in shape and arrangement, and are not to be stained in the fixed specimen. They are, of course, entirely distinct from the remarkable Schüffner's granules which appear with Romanowski's stain in certain parasitiferous corpuscles in tertian and estivo-autumnal malaria. It is probable that this phenomenon is simply an indication of active blood regeneration but there are apparently few conditions in which the frequency of these granular corpuscles compares with that in congenital jaundice—a fact which seems to give them a real diagnostic value.

These observations have been confirmed by a considerable number of observers, and the picture of this disease, which Chauffard has called hemolytic jaundice, is sufficiently definite to be regarded as a distinct clinical entity.

The patient often belongs to a family other members of which have suffered from the same condition. Early in life, sometimes immediately after birth, but in other cases later, perhaps not until puberty, a jaundice appears. This jaundice is usually of a moderate degree, varying from a pale lemon hue to a well-marked golden yellow. It is remarkably variable, increasing often under physical effort or emotional excitement. In one of my cases the mother asserts that it is always worse after violent exercise, dancing, or bad colds. The stools are of normal color or pleiochromic, especially under those conditions associated with increase in jaundice. The urine is of rather high color, often of a brownish almost mahogany hue but free from bile. Urobilin is usually demonstrable. The blood shows an anemia of moderate degree, usually between 3,000,000 and 4,000,000 red corpuscles, although in one case a blood

1. This whole subject is excellently discussed by Ferrata, who, in common with every continental author, ignores Vaughan's excellent work (Fol. hæmatolog. Leipz., 1910, ix, 1 Th., 253.

count of under two million is reported. There is usually considerable anisocytosis, but little or no poikilocytosis. The average size of the corpuscle is often rather below the normal, a point upon which Chauffard has particularly insisted. This was not noticed in our two cases. The color index is somewhat reduced. Polychromatophilia is usually well marked. In the vital staining the granulation described first by Pappenhein, Vaughan, Sabrazès, Chauffard and others is present in a large number of corpuscles. The percentage of granular elements is usually above 10 and may be as high as 20, or even more. The serum is of a clear, yellowish color, and the test for bilirubin is positive. Urobilin is generally undemonstrable. The leukocytes are usually of normal number or slightly increased. The differential count shows nothing remarkable beyond evidences of increased marrow activity manifested by a high percentage of eosinophils and the occasional presence of myelocytes and nucleated red cells, normoblasts. The serum shows a rather high degree of hypertonicity. Starkiewicz regarded this condition as a mechanism of defense on the part of the organism to protect the fragile red corpuscles. Troisier, however, believes it to be the result of exosmosis of the corpuscular salts as a result of the fragility of the red cells.

The remarkable feature of this interesting condition is that subjective symptoms are usually absent despite the constant anemia. The patients are generally unconscious of any disability. They appear to adapt themselves so well to their condition that it is only occasionally that a complaint is elicited. There is a complete absence of all the ordinary phenomena of biliary intoxication; there is no bradycardia, no pruritus; no tendency to hemorrhage; no xanthelasma. The patients are, indeed, as Chauffard has gracefully said, *"a peine des malades"—"plutôt des ictériques que des malades,"* barely patients, rather icterics than patients. Thus, in one of my two cases, the patient, jaundiced since birth, was a perfectly healthy looking girl who, despite the fact that the blood count on the first two occasions when I saw her, was 3,680,000 and 3,200,000 respectively, considered herself well and took part in all the ordinary sports of her companions.

There is one exception to this rule. Many of these individuals suffer from attacks of abdominal pain suggestive of biliary colic. These pains localized in the epigastrium and in the region of the gall bladder, are often accompanied by fever and by an aggravation of the jaundice. In a number of instances they have been so severe as to lead to operation. They were present in both of the cases which I have observed and in the first led to a cholecystostomy which revealed nothing abnormal. In many cases it is probable that the attacks are due to the presence of small pigment stones in the gall bladder, such as have been found in five of the six cases of congenital jaundice that have come to necropsy—every instance in which the gall bladder was examined.

Acquired Hemolytic Jaundice.—This remarkable syndrome—chronic acholuric, pleiochromic jaundice without the usual symptoms of biliary intoxication, associated with anemia, enlarged spleen, and siderosis of the viscera is not, however, always of congenital origin. Soon after Chau-

fard's first observation, Widal and Abrami, Chauffard and Troisier, Le Gendre and Brulé, von Stejskal, Oettinger, Parkes-Weber and others reported a series of interesting observations in which a similar train of symptoms came on without apparent cause in adult life. The onset of the jaundice in these instances followed various different accidents—an ischio-rectal abscess (Widal and Abrami), hemorrhage following a miscarriage (Widal and Abrami), severe nervous shock (Chauffard and Troisier), acute gastro-enteritis (LeGendre and Brulé). In other instances, such as the two cases of von Stejskal, that of Oettinger, and that of Parkes-Weber, the process seems to have appeared without striking initial symptoms. Again, in a considerable group of cases a jaundice of a transient character presenting similar hematological phenomena—an anemia with signs of regenerative activity of the bone marrow, granular corpuscles on vital staining and a marked fragility of the red cells, has been observed in the course of a variety of conditions, cancer of the stomach (Chalier); cirrhosis of the liver (Chalier and LePlay); malaria (Saquépée, Chalier); repeated hemorrhages in cancer of the bladder; (Widal and Joltrain); streptococcus infection (Saquépée); uncinariasis (Darré); syphilis (Gaucher and Giroux); pulmonary tuberculosis (Landouzy); jaundice of the new-born (Sabrazès and Leuret; Cathala and Daunay).

This acquired hemolytic jaundice, as it has been called by Widal and Abrami, who described the first cases, does not constitute a definite disease picture to the same extent as does congenital splenomegalic jaundice, but rather an interesting syndrome. Acquired hemolytic jaundice may be divided, as suggested by Brulé, into the apparently *primary* and *secondary* cases. The former arise either without obvious cause or during the course of some acute transient malady, after which they persist with seeming independence. Secondary hemolytic jaundice is observed in a transient manner associated with acute infections or poisons, or as a terminal phonomenon in the course of some chronic disease.

One essential difference exists between most of the cases of acquired hemolytic jaundice and the congenital malady, namely: the existence in the former of an anemia sufficiently grave to occupy a prominent position in the clinical picture. The anemia may, indeed, be intense and is associated with the usual subjective symptoms. There are often striking variations in the intensity of the jaundice and grade of anemia. Sudden paroxysms of fever associated with painful swelling of the spleen and extremely rapid fall in the number of red corpuscles have been described.

A patient of Widal and Abrami's showed on May 19, 2,600,000 red blood corpuscles; ten days later, while in apparently good condition, there appeared severe headache, dyspna, marked exacerbation of the jaundice, and in a day or two the blood count showed but 850,000 red elements. In one of von Stejskal's cases the blood count rose in eighty days from 640,000 to 4,000,000.

The blood picture is often very similar to that in pernicious anemia; marked oligocythemia; a high color index; anisocytosis; poikilocytosis; often an increase in the average corpuscular diameter. There are almost

always marked evidences of marrow activity in the shape of nucleated red blood corpuscles, among which megaloblasts are often found. Contrary to what one sees in pernicious anemia, the leukocytes are usually somewhat increased in number, and, occasionally, there is a well-marked leukocytosis which, on differential count, shows a considerable proportion of myelocytes and a large percentage of eosinophils. Granular corpuscles are present on vital staining, as in the congenital form of the disease; sometimes, however, these are not so numerous.

There are two striking points of difference in the hematological picture between acquired and congenital hemolytic jaundice. The corpuscular fragility, so evident in the former condition, is often very slight in the acquired disease when the test is made with unwashed corpuscles.

Widal and Abrami showed early that in acquired hemolytic jaundice the corpuscular fragility may, indeed, be almost inappreciable if the test be made with the whole blood. With deplasmatized corpuscles, however, the resistance is distinctly, sometimes very markedly, diminished. These authors showed that this increased fragility of the deplasmatized red corpuscles is common to both congenital and acquired varieties of the disease with the essential difference that while in congenital hemolytic jaundice the fragility is usually demonstrable with the whole blood, in the acquired condition the resistance of the whole blood may be normal, while that of the deplasmatized corpuscles may show a very marked reduction. The deplasmatized red blood corpuscles of acquired hemolytic jaundice show also a distinct diminution in resistance toward other hemolytic substances, such as anti-human sera of all sorts and leech extract. In normal blood the resistance of the deplasmatized corpuscles does not differ essentially from that of the whole blood.

While it is difficult to avoid the conclusion that this increased corpuscular fragility has a definite association with the hemolysis which occurs in these cases, yet it should be remembered that no direct parallelism can be drawn between the degree of fragility and the extent of the anemia. The conditions existing in congenital and acquired hemolytic jaundice form an interesting paradox, as has been pointed out by Brulé, on the one hand a marked corpuscular fragility associated with a moderate anemia, on the other, a moderate fragility and an intense anemia. "It is impossible to draw a direct conclusion as to the fragility of the red blood corpuscles in the organism from their fragility *in vitro*."

This diminution in the resistance of the deplasmatized corpuscles may be restored if they be brought into contact again with their plasma. Although there is a slight difference between the resistance of the corpuscles according to the manner in which they are separated from their plasma (Iscovesco, Salignat), yet these differences are so slight that they need not be considered; in fact the quantity of serum necessary to restore the resistance of separated corpuscles is so large that, practically, it is unnecessary to wash the corpuscles deplasmatized in an oxalate solution. The antihemolytic power of the serum is not restricted to that of the patient himself. It is present in other and heterologous sera. Heating to 56° C. for a considerable period of time does not remove the power.

There would then appear to be no evidence of the existence of a specific anti-hemolytic substance. Widal, Abrami and Brulé believe that the anti-hemolytic power is dependent on some special physical property or properties of the serum.

The blood of some individuals with acquired hemolytic jaundice possesses one characteristic which, for the moment, appears to be rather special, and is not observed in the congenital forms, namely: an auto-agglutinative power of the serum. The test is a relatively simple one; it is thus described by Brulé:

> One lets fall into a watch glass 10 drops of the patient's serum and then a drop of red blood corpuscles isolated by centrifugation; the mixture is shaken up and then allowed to rest. Soon the corpuscles are seen to gather at the bottom, sometimes appearing to form little masses. But if there be no auto-agglutination, we need but to shake the glass slightly to restore the mixture to its previous homogeneity and to disperse the corpuscles in the serum. If the auto-agglutination be positive, one sees after a period varying according to the intensity of the phenomenon from one to twenty minutes, a collection of the corpuscles into little granules easily perceptible by the naked eye, which give the emulsion an aspect comparable to brick dust; violent and prolonged shaking cannot dissociate these corpuscles. Little by little the agglutination increases, the corpuscles gather at the bottom of the watch glass where they form an homogeneous pellicle, the supernatant serum becomes limpid, and shaking no longer dissociates the hematic pellicle. If at the beginning of the phenomenon one examine a drop of the serum microscopically it may be seen that the corpuscles, instead of disposing themselves in rouleaux as normally, gather in little islands, between which there float a few isolated corpuscles.

This phenomenon has been found in a number of instances of acquired hemolytic jaundice. In others, such as the cases of Widal and Joltrain, and that of Parkes-Weber, auto-agglutination has been absent. The phenomenon is interesting and may be of considerable diagnostic value. It is not present in congenital hemolytic jaundice, although the patient of Bénech and Sabrazès whose jaundice is believed by the authors to have been acquired from a wet nurse, might be regarded as belonging to this class. It has, however, been observed in one instance of hepatogenous jaundice by Brulé. It should be said that it has not as yet been studied sufficiently to justify far-reaching conclusions as to its diagnostic value or significance.

Attacks of pain in the region of the gall bladder associated with fever and exacerbation of the jaundice are very common. Indeed, the first three reported cases (Widal and Abrami; Chauffard and Troisier) were all operated upon for suspected gall stones. In one of these cases a little bile sand was found; in the other instances the gall bladder was quite clear.

Acquired hemolytic jaundice presents itself in a variety of forms. The most important are:

1. Those cases simulating cholelithiasis.
2. Those simulating pernicious anemia with jaundice.
3. Those simulating a chronic infectious cholangitis. Chronic infectious, splenomegalic jaundice (Hayem).

4. It has also been observed in some of those conditions in which the most striking symptoms, anemia and splenomegaly, leave one in doubt as to whether the case should be classed clinically as Banti's disease or a cirrhosis of Hanot's type. Recent studies by Chauffard and Troisier, as well as by Armand-Delille and Feuillé suggest strongly the possible relationship between some so-called splenic anemias and hemolytic jaundice. Attention has also been called to this point by Parkes-Weber.

In other instances the condition may manifest itself under the symptons of an *icterus gravis* (Roque and Chalier).

The syndrome is, however, sufficiently definite and easily to be recognized if carefully studied, by the absence of bile in the urine, its presence in the blood serum, the urobilinuria, the presence of a large percentage of granular corpuscles on vital staining, by the fragility of the red corpuscles, especially manifest with the deplasmatized elements, and by the commonly present auto-agglutinative power of the serum.

It is important to remember that in Addisonian anemia and in cholelithiasis the corpuscular resistance is at least normal; indeed, as a rule it appears to be increased. In one of my cases of pernicious anemia hemolysis began at only .325, and was complete at .275 per cent., a greatly increased resistance. In obstructive jaundice Vaquez and Ribierre have also shown that the resistance of the red corpuscles is as a rule distinctly increased, an observation which we have been able to confirm.

Pathological Anatomy.—Several individuals presenting the syndrome of hemolytic jaundice have come to necropsy (Vaquez, Giroux and Aubertin; Oettinger; Gandy and Brulé, Widal and Joltrain, Roque and Chalier; Micheli; Möller; Wilson; Tileston and Griffin). The cases of Vaquez, Giroux and Aubertin, Gandy and Brulé; Wilson, and Tileston and Griffin were apparently of congenital origin—the others, probably acquired. In all cases, however, the essential features appear to have been general evidences of an hemolytic process as manifested by a siderosis of liver, spleen and kidneys. The autopsy in the case of Vaquez and Giroux is of especial interest as it occurred in a congenital case in which death followed splenectomy so that complications with other terminal processes were ruled out. The lesions which have been confirmed in the later cases, were as follows:

A marked congestion of the spleen especially confined to the pulp, the engorgement of which was in rather striking contrast to the relative emptiness of the sinuses. There were few macrophages in the splenic pulp, more in the sinuses. The endothelial cells were stuffed with iron-containing pigment. The liver showed no evidence of biliary obstruction, no angiocholitis. Many of the liver cells, especially in the centrolobular zones, were, however, stuffed with large granules of ochre pigment. There was moderate siderosis of the cells of the convoluted tubules of the kidney, and marked hyperplasia of the marrow.

These observations have been confirmed in all cases which have come to necropsy, affording thus, abundant evidence of the hemolytic character of the process. The siderosis of the kidney which is usually present, has, however, been very moderate in some instances, and was apparently absent

in Gandy and Brulé's case of congenital hemolytic jaundice, where death occurred in the course of a pneumonia as well as in Micheli's instance of the acquired form of the disease. In no instance was there evidence of biliary obstruction.

Pathogenesis.—The pathogenesis of this remarkable syndrome is by no means clear. The evidence of a chronic hemolytic process is not so very different, indeed, from that which one sees in various other conditions, such especially, as Addisonian or bothriocephalus anemia, conditions in which chronic jaundice is not uncommon. The clinical picture in some of the acquired forms of the disease with crises of aggravation of the malady may almost resemble paroxysmal hemoglobinuria. Here, as Donath and Landsteiner have shown, there is in the serum a true auto-hemolysin. But in paroxysmal hemoglobinuria there is no evidence of a diminished resistance of the red blood corpuscles.[2] In Addisonian anemia, as has already been said, the resistance of the red blood corpuscles is usually increased.

On the other hand there is no evidence of a specific hemolysin in these instances of jaundice associated with corpuscular fragility, so that one has been tempted to separate an hemolysinic jaundice, such as the jaundice with pernicious anemia or that seen with paroxysmal hemoglobinuria, from the jaundice associated with corpuscular fragility, to which the name hemolytic has come to be applied—a deplorable complication of terms.

This is, however, not to say that the primary causal element in some of the instances of so-called acquired hemolytic jaundice may not be the presence of toxic hemolytic substances in the organism. Indeed, there is some reason to believe that this may be the case. Troisier, for instance, in his recent thesis, advances various arguments in support of the hypothesis that the fragility of the red corpuscles in these cases of hemolytic jaundice is dependent upon the fact that they have already become sensitized by union with an hemolytic amboceptor.

However this may be, we are in the presence of a remarkable clinical syndrome—acholuric, pleiochromic jaundice, anemia, corpuscular fragility, granulation of the red corpuscles on vital staining, post-mortem evidences of blood destruction in the form of siderosis of the liver, spleen and kidneys, absence of evidence of the presence of hemolytic substances in the serum.

Several questions naturally suggest themselves.

1. Where does the hemolysis take place?

2. Where does the bilirubin circulating in the blood find its origin?

3. What is the primary cause of this condition?

1. As to the manner and seat of hemolysis there have been varying opinions. Some (Minkowski, Chauffard, Vaquez) fancy that, gathered in the pulp of the spleen, which, as has been seen, is always markedly engorged, the abnormally fragile corpuscles are there destroyed. Others

2. It is true that Meyer and Emmerich believe that they have been able to demonstrate a diminished resistance of the red corpuscles in paroxysmal hemoglobinuria against changes of temperature, dilute acids and saponin. Meyer and Emmerich: Ueber paroxysmale Hemoglobinurie, Deutsch. Arch. f. klin. Med., Leipsig, 1909, xcvi.

(Widal and his pupils) are inclined to believe that the destruction occurs in the general circulation, the debris accumulating as it always does in the spleen, and accounting thus for the symptoms and manifestations on the part of that organ. One observation, as pointed out by Castaigne, is strongly in favor of the circulatory origin of the hemolysis, namely: the siderosis of the kidneys, which is often demonstrable. Otherwise no important evidence can be adduced in support of one or the other of these views, which, in the end, are essentially the same, excepting in so far as they bear upon the second question.

2. The cause of the jaundice: Most observers have believed the jaundice to be immediately hepatic in origin due to the over-production of bile by a liver over-stocked, so to speak, with the products of blood destruction. The old idea that this was, in a sense, after all, an obstructive jaundice owing to the inspissation of the bile and the engorgement of the intra-hepatic bile passages, or to a diffuse intra-hepatic cholangitis, must, however, be abandoned as a result of the clinical and pathological observations of some of these cases. If the hepatic origin of the jaundice be accepted, we must fall back upon the assumption of Minkowski, that the overworked hepatic cell gives off a part of the excess of bile which it produces into the capillaries, as well as into the bile passages.

Widal and his pupils, however, advance another hypothesis, which is in many ways inviting. Pointing out the rapidity with which jaundice follows experimental blood destruction in animals, they call attention to the lack of evidence of any inspissation of the bile, referring especially to one of their patients on whom a cholecystostomy was performed for suspected stone. The gall bladder and ducts were empty, and the bile which was discharged from the fistula in large quantities, was of normal character, and strikingly fluid. On the other hand they observe that Langhans and Quincke have demonstrated bilirubin in the seat of old hemorrhagic foci, that Sabrazès and Muratet have observed the presence of urobilin in cerebrospinal fluid after cerebral hemorrhage, and that Froin has shown that hemoglobin may be changed into biliary pigment in hemorrhagic exudates in the meninges and in the pleura, observations which have been confirmed by Guillain and Troisier, Widal and Joltrain and others. The urobilin which various observers have demonstrated in the serum is believed to be due to a direct transformation from hemoglobin through bilirubin such as has been shown to occur in hemorrhagic exudates. Troisier (Thèse, 1910). They point to the fact that in cases presenting the syndrome of which we have been speaking, despite the long continued jaundice, there is no evidence of the ordinary symptoms of biliary retention, symptoms which they believe to be due to the action of biliary salts, namely: pruritus, bradycardia and emaciation. Bile acids have never been found in blood or urine. Nor do the red corpuscles show the increased size and heightened resistance to hypotonic salt solutions which Rist and Ribadeau-Dumas believe to indicate an acquired tolerance for intoxication by taurocholate of sodium. Everything, they think, points to the existence of a purely pigmentary cholemia

which, theoretically, might easily arise in the blood itself. This is a conceivable and seductive hypothesis. The objections based upon the absence of hemoglobin in the circulation, which have been raised against this idea, are answered by Widal by the assumption of a destruction of the corpuscles so gradual that the quantity of hemoglobin is too small to be recognizable. It cannot be said, however, that the symptoms of ordinary biliary intoxication are never present, rare though they be, for itching has been observed in one or two instances. On the other hand the argument that the absence of these symptoms is evidence of the purely pigmentary character of the jaundice is based upon a false assumption, for King and Stewart have shown that it is, in fact, upon the bile pigment that bradycardia depends.

It is, at the moment, impossible to form a definite opinion upon this question. While all recognize the hemolysis as the remote cause of the jaundice, the majority of observers still cling to a point of view similar to that of Vaquez and Aubertin, which has been well summarized by Chalier. According to this the condition represents "a lesion of the blood of unknown cause terminating in destruction of the red blood corpuscles, in secondary splenic hyperplasia with the formation of an excess of iron-containing pigment and an over-production of bile by the liver as a result of the superabundance of pigment to transform, and, consecutively jaundice." In their own words (Vaquez and Aubertin): ". . . if the primary cause of hemolytic jaundice is in an alteration of the blood, its immediate cause is without doubt an increased functional activity of the liver cell; there may exist indeed, a biliary overactivity of the liver just as there exists a glycogenic overactivity of the liver, and hemolytic icterus would then be an icterus through hepatic overactivity ('ictère par hyper-hépatie')." Their idea as to the manner in which the bile pigment enters the blood is doubtless similar to that expressed by Leuret. "With the blood pigment modified by the spleen the hepatic cell proceeds to produce an excess of bilirubin to a degree such that in certain cases it overflows and secretes bile at both poles: whence hepatogenous icterus"—essentially the idea of Minkowski. The question must be regarded as still open, and there is much that would attract one to the hematogenous hypothesis of Widal, the arguments in favor of this point of view being set forth strongly in the thesis of Troisier.

3. As to the third question, the primary cause of the corpuscular fragility, a positive answer cannot be given. In congenital hemolytic jaundice it has generally been assumed that the fragility of the red blood corpuscles is an inherited defect. The red cell, it might be fancied, has here failed to acquire those powers of resistance which are ordinarily gained in the first days of extra-uterine life, retaining permanently its original fragility. In the acquired forms of the disease the question is however, by no means so simple. Widal, Abrami and Brulé, by intra-peritoneal injections of toluylendiamin, have produced in animals a jaundice with clinical and pathological phenomena similar

to those observed in hemolytic jaundice in the human being. According to the dose, the process is more acute and severe, or slower and more gradual and persisting for a long period after the last injection of the poison. No hemolytic properties could be found in the serum. On the other hand the r. b. c. showed a markedly diminished resistance to hypotonic saline solutions as well as a granulation on vital staining, while evidences of increased marrow activity were striking. The urine in some of these cases, however, contained bile pigment. Obstructive jaundice in animals results neither in anemia, granular corpuscles, nor increased fragility. Indeed, the resistance of the red blood corpuscles is always normal or increased. Here, then, is a similar phenomenon produced primarily by a soluble toxic substance, and while in many instances in the human being, no such cause is apparent, in other cases, such as those occurring in malaria, syphilis and uncinariasis, the primary action of some circulating toxic substance would appear to be certain. It may be, as suggested by Widal, that the marrow, constantly called upon, ends by producing corpuscles less resistant than the normal. But under such circumstances we must fancy that some poisons have acted primarily on blood or marrow. What these may be we know not. The fever associated with paroxysmal aggravations in some cases of acquired hemolytic jaundice is suggestive of an infection.

It is possible then, that the corpuscular fragility as well as the granular corpuscles—the main stigmata of the syndrome, may sometimes be secondary to the action of some circulating toxic substance or substances.

Treatment.—Various essays have been made in the treatment of both congenital and acquired hemolytic jaundice. Widal and his pupils have shown clearly that the persistent administration of iron is the one method from which good results may be obtained. In the severe acquired forms rest in bed and the other adjuvants suitable for the treatment of any grave anemia should be adopted. In congenital hemolytic jaundice recovery is unknown, but a temporary improvement in the anemia may be obtained by persistent treatment with iron. In acquired hemolytic jaundice long continued treatment may result in apparent, perhaps, indeed, in complete recovery (Widal, Abrami and Brulé). This is a very important fact when one reflects upon the futility of treatment with iron in Addisonian anemia, a malady which may so closely resemble this syndrome.

The studies, then, of the last several years have brought out a fairly definite clinical syndrome, that of acholuric jaundice associated with splenomegaly and fragility of the red blood corpuscles. In its purest form this group of symptoms is manifested in a sharply defined disease picture, congenital, often familial splenomegalic jaundice. It is probable that many of Gilbert's cases of chronic simple jaundice with splenomegaly as well as of Hayem's infectious splenomegalic jaundice are examples of the disease.

A similar condition is, however, not infrequently met with in adult life. In these so-called acquired cases the symptoms are usually con-

siderably more acute and severe than in the congenital malady. The syndrome has, moreover, been found in a variety of other instances of non-obstructive jaundice associated with various infections or poisons. What the essential primary element in these cases may be, is not at present clear. Most important for the moment is the recognition of those apparently idiopathic examples of acquired hemolytic jaundice simulating pernicious anemia, cholelithiasis, the so-called splenic anemias or indeed, *icterus gravis;* most important because of the fact that the recognition and persistent treatment of some of these cases with iron may bring a great improvement, and perhaps a permanent recovery.

The recognition of this syndrome has opened again, and in an interesting manner, the question as to the possibility of a purely hematogenous jaundice.

The methods of studying the corpuscular resistance necessary for the diagnosis of such cases are, of course, too delicate for use by the busy practitioner, but they may be carried out easily in any well equipped laboratory. One may hope that a reinvestigation of some of the many instances of non-obstructive jaundice by means of these methods of study may help to shed further light upon an interesting field of medicine.[3]

BRIEF REPORT OF WORK DONE AT OTTAWA TENT COLONY WITH SUGGESTIONS FOR IMPROVEMENT

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OTTAWA, ILL.

The Ottawa Tent Colony has been in active operation for six years and a half—a sufficient length of time to demonstrate its usefulness and make a fairly accurate estimate of results accomplished. This communication may be regarded as a report of the work of this institution, together with comments on the general situation of the tuberculosis problem which are of interest and have a direct bearing upon its work. A departure from the conventional method of giving exact historical data, figures, percentages, etc., I trust will be approved as my purpose is simply to present those general facts which it is so essential should be known, and will be more easily grasped and more likely read if not presented in too much detail.

There have been 1,100 cases admitted to the Ottawa Tent Colony during the six years and a half of its existence. Inasmuch as our results have been substantially the same as that of other institutions with the same class of patients, I do not deem it necessary to give exact data, as the purpose of this report is not to exploit our institution, but to illustrate conditions which are general and not peculiar to any locality

3. For full reference to the literature, see the article by Thayer and Morris on "Two Cases of Congenital Hemolytic Jaundice with Splenomegaly," soon to appear in the Johns Hopkins Hospital Bulletin.

or institution. The net results based upon the conditions of patients two years after leaving the institution are, as nearly as we can determine, between 35 and 40 per cent. of cures. It is not only difficult, but impossible to keep track of patients very long after they leave the institution; hence the time arbitrarily fixed in estimating a cure is two years, which experience proves, is about correct. Since the success of the treatment must be based largely upon the physical condition of the patient on entrance, it is manifestly unfair to include in any estimate far-advanced cases in which the results are so meager as to amount to practically nothing. By excluding this class of cases, the results could be doubled. A fairer method upon which to report results is on a classified basis of the physical condition on entrance—incipient, advanced and far-advanced. The results in the incipient class are about 90 per cent.; in the advanced about 50 per cent.; far-advanced 1 or 2 per cent.

In addition to the usual hygienic-dietetic methods, we have administered tuberculin consistently and conscientiously during the past four years. At first Wright's opsonic method was used, the opsonic index being used as a control in dosage, but this method was found unnecessary and impractical because of the immense amount of work and for some time we have followed the clinical methods of Trudeau, Koch, and Denys. The latter method is much less laborious, and as we believe, more scientific. Tuberculin has been administered in a large number of afebrile cases in good nutrition and the results are gratifying. Denys' bouillon filtrate has been found to be especially efficacious in cases of rapid pulse. Statistics of cases treated with tuberculin are now being compiled and will be presented in a separate report.

Cases showing irregular temperature, leukocytosis, excessive expectoration, and other symptoms generally attributed to mixed infection have been treated with autogenous vaccine made from the pyogenic organisms isolated from each case. In some cases mixed vaccines were used. In others the organisms were isolated in pure culture. The exact value of autogenous vaccines against mixed infection has not yet been determined. As in tuberculin treatment, the immediate results are not marked; and it is only by the comparison of a large number of cases treated with and without vaccine that logical deductions can be made. However, it has been found that the number of hemorrhages occurring in the group treated with vaccine prepared from the organisms of mixed infection is considerably less than the number occuring in the cases not so treated. On the whole, we are convinced that vaccine therapy is a valuable aid to the hygienic-dietetic treatment.

The general principles of treatment, and to some extent the methods, are now so well understood as to make it unnecessary to consume time or space in presenting them. The difficulties which arise in their application, however, are not so well understood, and these I shall attempt to set forth in some detail.

At the inception of this work we were confronted by that hopeless apathy which had hitherto characterized our attitude toward tuberculosis; also a very general skepticism both in and out of the profession as to its

curability in this climate. I think it is fair to assume that public and professional opinion has changed on this question to such an extent that now it is generally conceded that tuberculosis can be cured practically anywhere. The essentials so far as climate is concerned being simply fresh air. This change of sentiment has been brought about in a comparatively short time when we take into account the magnitude of the problem, and the time-honored opinions and convictions which had to be overcome. Now that former prejudices to a great extent have been overcome we are entering upon an era of constructive work.

I will not attempt the consideration of the tuberculosis problem in general, but confine myself more particularly to those considerations which effect its treatment.

It is conceded by those who are at all familiar with the treatment of tuberculosis that it can only be said to be curable, as applied to a large majority of cases, in its early stages. One of the greatest obstacles to successful treatment is the fact that not only the Ottawa Tent Colony, but other institutions, are being compelled to admit many patients that are well beyond the incipient stage. This is due to the fact that neither the profession or the public are sufficiently well informed as to the early symptoms of tuberculosis to recognize it in its early stages. As a rule the family physician does not see the patient until the disease is well advanced, and it must be confessed that in many instances he does not reognize the early symptoms even when the opportunity offers, because he is not alert, or well informed, but worse than all, many physicians have not the courage to inform a patient as to the nature of his trouble even when they do recognize it. The conscientious and well informed physician who makes an early diagnosis is almost invariably placed on the defensive, and where he is not, finds it extremely difficult to secure the co-operation of the patient and his friends in carrying out his directions. It too frequently occurs that in an effort to spare the feelings of the patient, the diagnosis is covered up under such indefinite and meaningless terms as "chronic bronchitis," "slight lung trouble," "grippe," "catarrh," "cold," etc. We should be honest with our patient. If he is tubercular, tell him so, and show him how he can be cured, and how he can spare others. Were tuberculosis, like inoperable carcinoma, an absolutely hopeless condition, then we would be justified in concealing our diagnosis, but it is curable, and the only way to cure it is to have the patient's assistance. This is never possible when he does not realize his condition. Ignorance alone is responsible for the terrible dread which most people have for consumption. No effort should be spared in impressing upon the minds of our patients that whereas two-thirds of all people have, some time in their lives, had tuberculosis, only one-seventh of all deaths are due to this disease. Furthermore, we should be candid with our patients for the reason that we have the welfare of his family and immediate friends in our hands, and not to recognize this responsibility is little short of criminal. How often in a home where tuberculosis has been lurking for months, do we find innocent members of the family exposed, because of our failure to be frank and honest with our

patient. In a leading city in an adjoining state a recent investigation shows that in many cases tuberculous patients had consulted from as many as three to eight physicians before they had been told frankly that they were suffering from tuberculosis. What we are pleased to call "tact and discretion" in sparing the tubercular patient's feelings are in fact injustice and crime, and the sooner we adopt absolute candor in dealing with our cases so much sooner will the ravages of tuberculosis diminish.

The difficulty from the standpoint of the sanatorium physician is that he is compelled to accept a majority of advanced and far-advanced cases which makes successful treatment doubtful even under the most favorable circumstances, but to add to the difficulty of the situation he finds his patients coming to the institution badly advised, and with many misconceptions as to the necessary conditions of treatment, and the time essential to effect a cure. Unfortunately the family physician and the sanatorium physician, by reason of their different relations to the patient, view the situation from different standpoints, hence there is a tendency for one to be critical of the work of the other because of the failure of each to understand the difficulties which confront the other.

The family physician has not discharged his full duty to a patient when he recommends him to the sanatorium for treatment. Much of the success of institutional treatment depends upon the attitude of the patient toward the institution, and this in turn depends very largely upon the advice given him by his family physician. There is nothing more confusing or disastrous to the patient than to find that the advice and information which he receives in the sanatorium, differs very materially from that given him by his physician. This causes him to doubt, and results in an uncertainty as to his plans, which makes him restless under the necessary restraints of treatment. Inasmuch as confidence is essential to success, where there is discrepancy in the advice given him by his family physician, and that in the sanatorium, he will usually place his confidence in the family physician for two reasons. First, because he is better acquainted with him. Second, it is usual for the family physician, in order to get the patient to accept the sanatorium, to minimize the conditions as to time, expense, etc., and withhold other information which the patient should have in planning so important a campaign, and he will invariably take the advice of the physician who plans the easiest campaign.

The family physician should realize that he assumes as great a responsibility in advising a patient to go to a sanatorium as he does in treating him, hence he should be careful not to give him any information which is likely to be contrary to that which he will receive in the institution, for by so doing the patient is confused, the family physician may be discredited, and the sanatorium physician certainly embarrassed, no matter how earnestly or intelligently he may endeavor to reconcile the differences in the mind of the patient. It is a serious mistake for the family physician to minimize the extent of the disease or the time necessary to effect a cure. The patient must be made to face the issue

squarely, as he usually will when properly presented. It is a very serious mistake for the family physician to minimize or withhold the facts with a view to making it easier for the patient by having these facts gradually revealed to him. It is very natural to shrink from infliction of the terrible mental shock which almost always accompanies a diagnosis of tuberculosis and that overwhelming sense of despair which we so often witness. We are tempted to either withhold the information or minimize it for the protection of our own feelings as well as those of our patient. This, however, is no reason why we should not do our duty, especially in view of the fact that it is only by so doing that we can protect our patients from disaster. Then, too, we have this consolation that after the first burst of grief and despair which usually comes to the patient when first informed as to his condition "he pulls himself together" and is ready to begin a fight for his life. It is just at this period when the family physician can be of greatest service to his patient, for upon his skilful advice the fate of his patient very largely depends. The mental condition of the patient can be made no worse by informing him as to the conditions of treatment no matter how hard these may seem to be. In fact this is just the period when he is most ready to accept the situation without reference to its difficulties. This is the time to prepare him for his campaign, and his success will depend upon how skillfully this is planned.

The treatment of tuberculosis in the home is well nigh impossible. Here and there one is cured, but these are the rare exceptions to the rule. No one appreciates this fact more than the sanatorium physician for he finds it difficult enough to get results even under the most favorable conditions. He knows better than the general practitioner that it is the patient that is the problem and not his disease.

The treatment of tuberculosis from the physical side is comparatively easy and clearly indicated. Its application is quite a different and far more difficult matter because the patient and his environment form the problem and not his disease.

The general practitioner usually approaches the treatment from the physical side. He assumes that his patient has an intelligent appreciation of his danger, that all that is necessary is to give directions as he would in an ordinary case of acute illness and they will be carried out. He fails to make the distinction between a patient suffering from an acute illness whose pain and helplessness compels him to accept a situation, however disagreeable, and the patient suffering from a chronic disease wherein the symptoms during the curable stage at least are all of so mild a character that it is difficult to make either the patient or his friends believe he is afflicted with a disease which is fatal unless its course is arrested. The tuberculous patient not only does not suffer, but he usually has sufficient strength to carry out his own desires, little realizing that every injudicious act hastens the fatal result. The only way to get the average patient to do the things which make for recovery is to have him under constant surveillance, and even then frequent appeals must be made to him in order to get him to do anywhere near right.

Comparatively few patients have a realizing sense of their danger, hence they must be coaxed and encouraged, reasoned with, given sympathy (not coddling), sometimes disciplined, and always controlled. They must be protected from the thousand and one temptations of life with which they are constantly assailed in the home and to which they so easily yield. These are the principle reasons why it is so necessary to get the patient away from home, home influences, and particularly home coddling and sympathy. No matter how much we may theorize or how plausible the reasons assigned, the fact remains that in practice, the home treatment is a failure except with the occasional patient of strong character, and unusually good environment. The conduct of the uncontrolled patient is as erratic and uncertain as the alcoholic or drug fiend, who in attempting to reform is left to his own resources. Good resolutions vanish, and plausible reasons given by the patient why he can do this, that, or the other thing safely which the experienced physician knows are dangerous. There is probably no disease, the treatment of which makes such overdraughts upon the nervous force and energy of the physician as in the treatment of tuberculosis. He is in a constant state of trepidation because of the fear of consequences from the things done, or anticipated, by his patients, that is exhausting in the extreme. This is why the personality of the physician counts so much for success in the treatment of this disease, and those who do not recognize the necessity for this unusual care and solicitude make a failure of institutional care, just as the family physician does for reasons which are beyond his control.

Where the patient is amenable to control it not infrequently occurs that the inevitable worry, solicitude, and well-meant but injudicious advice of the family and friends thwart the best directed efforts of the physician and his patient. The patient who succeeds in carrying out the treatment successfully in the home is fortunate indeed, but his success is disastrous to the multitudes who, inspired by his example, make the attempt and fail, hence in the interest of the many it is unfortunate, since more cannot be cured, that any are successful.

The successful treatment of tuberculosis as applied to a large majority of cases can only be accomplished by removing the patient from the temptations of the home, business, and friends, and the sooner this fact is recognized, the better will be our results. The usual argument in favor of home treatment is that because of the meager sanatorium accommodations, and the poverty of the majority of the sufferers, treatment must be carried out in the home or not at all. This is unfortunately true, and the argument would have more weight were it not that the plan is so uniformly unsuccessful. A more rational plan is to meet the situation squarely by providing sanatoria for all. The failure in the home has a decided tendency to discredit the treatment and emphasizes the necessity for greater sanatorium facilities. It is unfortunately true that the modern treatment of tuberculosis can only be successfully applied with any great degree of success in sanatoria, hence we should devote our energies to making institutional provision for all classes of cases.

Walters of England, who has had large experience in home and sanatorium practice says: "I have been sometimes tempted to regard outpatient treatment of consumptives as sheer waste of time. Turning to a different class I have a fairly large and increasing list who have undergone sanatorium treatment during the last five years and remain well and at work; whereas I scarcely remember a single instance of recovery under treatment at home. I have met with several cases in which open air treatment was attempted at home previously to admission to the sanatorium and have been struck with the difference in results. Such patients freely confess after a few weeks sanatorium treatment they had unintentionally wasted the time at home, that home treatment was quite a different thing owing to the difficulties imposed by their surroundings, and that less progress was made in months at home than in weeks at the sanatorium. I have also had most flattering letters from medical men testifying to the educational value of the sanatorium treatment, and this is not the least of the advantages conferred."

In addition to the temptations inseparable from the home another important factor in favor of the sanatorium is the effect of the example of other patients, and that *esprit de corps* which is developed among them, and both of which are powerful factors. However intelligent and purposeful, determined and obedient, the patient may be, he will advance much more rapidly in having the stimulus which is obtained from life with other patients who like himself are seeking to recover health and whose example will constantly urge him on toward the proper life. All who have handled many patients together know the great assistance which is obtained from the rivalry between them in taking the cure faithfully; the brace to the weak from the example of others; the encouragement to the discouraged that is incurred by the good results in other cases; the mutual assistance and the good spirits which animate them all.

Of the many obstacles to the successful application of the treatment of tuberculosis not the least is in meeting the necessary expenses of treatment. When sanatorium treatment is suggested, we are often met with the objection that the patient is not able to meet the expense. This unfortunately is too true in many cases. However, there is no escape from the financial burden of tuberculosis no matter which way we turn. It must be borne in either one of two ways—in care or cure. "Care for the consumptive in the right place, in the right way, and at the right time until he is cured; instead of as now, in the wrong place, in the wrong way, and at the wrong time, until he is dead." Fortunately the cure is the least expensive, but thus far we have failed to see it. It is a lamentable fact that there is as much money being spent in the care of tuberculosis as would be necessary to cure those afflicted if it were spent at the right time and in the right way. This is a fact which is not fully appreciated, and in every case presented to us the financial situation of our patient should be carefully convassed in attempting to advise him. From three to five hundred dollars will usually suffice to cure the curable case, or at least to make him self-supporting. It will usually cost con-

siderably more than this to care for him during the months, or even years of his illness, to say nothing of the loss of his own time and that of other members of the family who are compelled to give up their employment in order to care for the invalid; hence inasmuch as the expense must be borne and there is no escape from it, where the patient may fairly be regarded as curable, he and his friends should be made to understand that a cure is usually less expensive than care. The resourceful physician can often be of greater service by his advice in this particular than in any other way.

The word "cure" is often loosely used, thus giving rise to wrong impressions. Inasmuch as the active symptoms are more largely due to a mixed infection than to the tubercle bacilli, and this disappears under favorable conditions rather promptly, the patient and even his physician is apt to overrate the permanency of the results, and underrate the difficulties of completing a real cure. When we have overcome the mixed infection, the patient may have the appearance of health, but as a matter of fact he is not well, but simply placed in a condition where the cure of his tuberculosis is only fairly begun. This is a fact that is not appreciated, and every such failure is unjustly charged up to the defects of sanatorium methods. While it is true that tuberculosis is *easily* cured, it is also true that it is never *quickly* cured, and the more fully this fact is appreciated, the better it will be for the reputation of the physician, and the welfare of his patient. In the treatment of tuberculosis like every other enterprise the results are in proportion to the investment. Experience the world over proves that at least six months of sanatorium treatment is required to produce substantial results in the majority of cases, and that while a considerable number do succeed in a shorter residence, such a course is attended with much risk and many failures, which, but for the attempt to take a short cut, would have recovered. Unfortunately many patients for financial reasons, cannot remain long enough to effect a cure. It is fair to say that some treatment is better than no treatment, and not infrequently is successful, but such risks should not be assumed where possible to avoid them, and no patient, whatever his circumstances, should be left in ignorance of this fact.

A prognosis in tuberculosis should not be made too confidently. The family physician who recommends a patient to go to a sanatorium may truthfully say, "I cannot possibly promise that treatment there will cure you, but I can honestly tell you that in this way you will be giving yourself the best chance of battling with the disease successfully." The advantages of sanatorium treatment are that it affords the tuberculous invalid the most practical, indeed, *the only systematic* method of fighting his disease, and acquiring hygienic living in its prevention. It is a most valuable educational factor, not only in the immediate locality in which it is located, but to a very great extent in the community at large; it has a definite and important place which can scarcely otherwise be filled in the study and investigation of the disease and its complications. In these three relationships then, the sanatorium possesses a scope and value of vital importance in the present great anti-tuberculosis movement, and

whatever the future may have in store for it the sanatorium must always hold a place, and a vitally important one, in this great movement. The sanatorium is as essential as the general hospital, and for substantially the same reasons.

Often when tuberculosis is diagnosticated, the patient is ordered to the country or the mountains, or at least to make some change; and as a rule in these early cases the patient improves. Often the disease quiets down and the patient resumes his work. This has been accomplished by the sacrifice of a little time and at a comparatively small expense.

Why not recommend this change then instead of institutional treatment? Let the after history of cases treated in the two ways tell. Tuberculosis is a disease which heals slowly. This so-called recovery of health which follows change is often only apparent. It takes months to get well of incipient tuberculosis. The patient who simply makes a change of surroundings has only the change and rest from which to derive his benefit. He returns to work, knowing nothing of his disease or the things which are necessary to retain the health to which he has been apparently restored. On the other hand, the individual who has been treated in a thoroughly equipped institution has the benefit of the rest and change. He has appropriate food, the proper amount of rest and exercise, a thorough enforcement of the fresh air principle, and besides, has the advantage of all active measures which science knows to be of value. He returns to work after a few months when all active symptoms have disappeared, but he well understands that it will take a year or two to make the cure permanent. He is educated in the care of himself and thus prevents a relapse, while the individual who has simply made a change sooner or later is apt to break down again. His apparent saving has been a loss, and with it perhaps has come the loss of health and life as well. How much better would a little wholesome rational advice have been? The cure of tuberculosis must be based upon common sense.

If tuberculosis is ever to be mastered, it must come through early diagnosis and immediate, energetic, rational treatment. To attain this end, the earnest co-operation of the entire medical profession is required.

WHAT ARE YOU GOING TO DO ABOUT IT?

E. W. FIEGENBAUM, M.D.
EDWARDSVILLE, ILL.

Through the wonderful discovery of arseno-benzol, or No. "606," by Dr. Paul Ehrlich of Frankfort, the attention of the profession has very recently and very forcibly been called to the venereal diseases, and the entire medical world is watching with bated breath, hoping that at last a remedy has been found powerful enough to cope with this most awful condition. I need not tell you of the ravages of this kind of diseases, but merely call your attention to the statement that the annual death-

roll of syphilis and gonorrhea, and their results, exceeds that of all the contagious diseases combined. Acting on the time-honored principle of our profession to prevent the extension of diseases in any direction, it is small wonder that we are groping about for an instrument that will help us to combat this most stubborn enemy. Thousands are annually going to premature graves and multiplied thousands are living lives worse than death, solely on account of the ravages produced by specific diseases.

I am not going to tell you about "606"; neither am I going to speak of the Wassermann test, nor try to describe this condition in any of its phases. This paper is presented to call your attention to the vast army of men, women and children, cursed with specific diseases, and the results thereof, through no fault of their own. Here and now a plea is being made for the innocent victims of diseases contracted by vice and debauchery, the "sins of the fathers visited on the children even unto the third and fourth generations."

Dr. Rainey of Salem, Ill., president of the Southern Illinois Medical Society, at the annual meeting in 1909 read a paper on "The Home Beautiful" which so impressed me that I have been unable to get away from it. He gave a description of a home, clean and pure, happy, healthy children, peace and goodwill, picturing an ideal condition of an American home, a home in which the great curse of venereal disease had never entered; a most alluring picture notwithstanding the fact that the financial means of the family were limited. But what does it profit us to raise that kind of a family, when the boys and girls of that family are daily exposed to contract vile diseases, and through no fault of their own? Dr. Rainey in his paper used this sentence: "Suppose a young man knocks at the portal of your home, asking for your daughter's hand. She is pure and bright as the dew from heaven as it receives its first kiss from the morning sun. This young man may have all the outward appearances of a perfect gentleman, but an acquired sufferer of the great social plague. It would be better that he be knocking at the portals of hell for admission than asking the hand of your daughter to make life miserable for her the rest of her days, and her children born to them." That is all very true, but this same respectable looking gentleman refuses to knock at the doors of hell, and persists in knocking at your door and my door, and keeps on knocking until he places your daughter behind the doors of hell, to which the precious son-in-law ought to have been consigned long ago. Allow me to read out of my case book.

A banker's daughter, the idolized child of fond and indulgent parents. The family was of the very best in the community, honored and respected by every one. This girl not only shared the general popularity of the family, but was deservedly popular and much sought after on her own account. Her character was above reproach, she was an active worker in all the Christian movements in her village, full of good deeds and noble impulses. These very attributes attracted marked attention, and among the rest came one of these highly respectable looking young

men, with all the outward appearances of a gentleman but inwardly rotten to the core. This beast, although he knew that he was afflicted with gonorrhea, laid siege to the heart and hand of this beautiful character, and knowing that he was still in an unfit condition, married her. Amid the plaudits and congratulations of numerous relatives and friends, prodigal with best wishes and bright forecasts for the future of the young people, the newly wedded pair left the home where she had been sheltered with idolatrous love for twenty years. From that moment she was doomed, for it only took a few months to show that she had become infected with the dread disease. At the same time we knew that another crime would be laid at the door of this man, for the little unborn babe, not finding sufficient sustenance to maintain life, slipped away before its time, adding a mute protest against the sins of the father. Not long after, with a view of staying the disease, the tube and ovary of the left side were removed. This proved only a makeshift and the operation for the removal of all the organs of reproduction was undertaken and carried out. Unsexed, maimed, mutilated, she still lives with every movement a pain and every breath a groan. Is this an overdrawn picture? Who is next? Is it your daughter or my daughter?

A young lady of one of the best families of Topeka, Kansas, returned from a vacation visit to friends in the interior of the state. An ulcer of a peculiar nature was seen on her lip which, on investigation, was found to be syphilitic. Thorough investigation of the origin of this ulcer was undertaken, which disclosed the fact that the sore was contracted by using the common drinking cup on the Pullman. You see, all the hogs do not ride on cattle trains. This case was brought to the attention of the legislature, and a law was enacted abolishing the common drinking cup on all the trains that operate in that state. Oklahoma has a similar law, and it would be a step in the right direction if this precaution could be made national.

The census of 1900 elicited the fact that there were in the United States 66,000 blind persons, fully 33 per cent. of whom became blind when less than a year old. We know that ophthalmia neonatorum is the fruitful source of infantile blindness, and that its most frequent origin is in the virus of gonorrhea implanted in the eye at the very moment of birth. Just think of this vast army of over 20,000 children doomed to a life of eternal darkness all on account of an infamous disease bequeathed to them by heartless parents.

We are all justly proud of our public school system, that great bulwark of American liberty, and yet has it ever occurred to you that our children are daily exposed to this damnable disease while in attendance at school? Dr. Ira C. Wile of New York, in a paper published in the *New York Medical Journal*, Sept. 10, 1910, gives a most horrible account of conditions as they exist in our public schools, and calls attention to the fact that most strenuous measures ought to be taken to prevent the spread of venereal diseases among our school children. He says that 20 per cent. of all venereal diseases is acquired before the twenty-first birthday, and that syphilis and gonorrhea, generally accidentally acquired,

is not infrequent in children between the ages of 4 and 16 years. The various methods of acquiring these diseases, accidentally and innocently, are summed up by Wile as: by fondling, kissing, using infected glasses and infected eating-utensils, from the use of the common towels, pencils and sponges, etc. Occasionally there was more direct contact, as by exchanging chewing gum, interchange of mouth toys, and sexual contact.

This is either true or not true. If the conditions have been misrepresented that fact ought to be ascertained and denial of the above statements published far and wide. But what if all the above statements are true? Our duty is plain. Every member of the society, every member of the profession ought to constitute himself a committee of one, to right this most grievous wrong, to become a defender of the innocent victims of this infamous disease. In his own village, town or city or wherever he may find himself he ought to put up the best fight there is in him against this condition. We as medical men must take the initiative; nay, more, we must be constantly on the firing line, for if we do not take up the gage of battle to remedy this great evil, there will be no battle. The world looks to us in these sanitary and hygienic matters and in behalf of this great army of innocents, I bespeak your most earnest, your most effective efforts. We cannot shut our eyes to this condition that no one knows better than we. The spectre will not down; we must face it; then let us face it like men. Conditions are getting no better very fast. Dr. Wile, quoting from Dr. Morrow, states that it is a conservative estimate that in this country the morbidity of gonorrhea would represent 60 per cent. of the adult male population, and that of syphilis from 10 to 15 per cent. In other words this means that three out of every four men you see walking on our streets are victims of the great black plague. Dr. Morrow makes the statement that in France 20,000 children die of syphilis each year. The Southern Illinois Medical Society at its annual meeting in 1909 passed a resolution to ask our legislature to pass a bill requiring candidates for matrimony to furnish a certificate of health before a license could be issued. One of our local newspapers had considerable fun over this act, called the idea utopian, said that we were at least fifty years ahead of the times, etc. Still, in the face of all this, our sister state Indiana has passed just such a bill, which has been a law for five years, requiring the bride and bridegroom to be examined by a physician who must certify that the candidates for matrimony are not afflicted with any contagious or infectious disease. Then and only then a license can issue. This proves that the idea is not so utopian after all, and that there are others in the profession who think along these lines. An effort will be made to introduce and pass a bill along these lines in the next legislature, and every physician in this state ought to aid this movement with all of his efforts and all of his influence, to bring about this much desired result. When this opportunity offers will you be active or passive? In other words, what are you going to do about it?

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FEBRUARY, 1911

THE EXAMINATION OF APPLICANTS FOR LICENSE TO PRACTICE MEDICINE AND SURGERY IN ILLINOIS

SECOND ARTICLE

The discussion regarding standards of admission to practice continues. The Sunday edition of the Chicago *Tribune* has recently contained contributions regarding the education of medical men, dentists and lawyers. All of these have contained references to the low standards of admission and fake schools. Curiously enough Dean Henry M. Bates of the Michigan University Law School, declares that his profession lags disgracefully behind the profession of medicine when it comes to the standard of admission. This may be true in Michigan where the medical department of the university has such a paramount influence and where we are informed the State Board of Medical Examiners has always been effective and honest. So much of what Dean Bates says about the overcrowding of the legal profession and the unpreparedness of the young lawyers, applies to the medical profession, that we give his statement in full.

"The profession of the law is undoubtedly crowded, and perhaps overcrowded, though probably not more so than other long established occupations. Statistical data as to this subject are not wholly enlighten-

ing, especially in the efforts to determine whether 'the law' is more crowded than are other vocations, or whether it is now more crowded than formerly; for the obvious reason that such data can take no account of and throw no light upon the questions as to how many lawyers or doctors or bankers are needed to serve, say, 1,000 persons, or whether as many or more are needed to do the business to-day of 1,000 persons as to do the business of past periods.

"However, there can be no doubt but that lawyers are so numerous as to make competition among them distressingly keen and to make it extremely difficult for the young lawyer to secure a good foothold. On the other hand, the rewards to those eminently successful are, I believe, much greater to-day than at any other time in the history of the profession. Moreover, there are still many places, usually the smaller communities, to be sure, where there are still not enough lawyers. Within a few days I have had several letters from business men in different parts of the country asking me to recommend to them some lawyer to fill a need felt in the indicated community.

"This real trouble in my judgment is that there are too many 'half-baked' lawyers, but not enough men well prepared to practice their profession. The young man of good ability and character, scientifically trained for the law, need have no fears. It is the large number of men of poor ability, superficial training, and unstable character who face a hand to mouth existence. Unfortunately, moreover, these men make trouble not only for themselves and their clients, but they lower the standards of living, and in some cases, of professional conduct for other and better lawyers.

"The remedy is to be found in higher standards of admission to the bar. In this respect our profession lags disgracefully behind that of medicine. I think I am correct in saying that in every state of the Union but one, no man can even take the examinations for a license to practice medicine unless he is a graduate of a 'reputable medical school.' In not a single state is there a corresponding requirement as to law. Moreover the medical profession has seen to it that a 'reputable medical college' is defined in all states as one having a four-years course, with at least stated facilities and adequate faculties; and in several states to be deemed such a medical school, an institution must require of matriculants that they shall have in addition to a high school course at least one year of college work. There is nothing approaching this in requirements for admission to the bar.

"Great as has been the improvement during the last decade or two, the requirements in many states are scandalously low. Little is demanded, and even in administering these insufficient requirements many boards of examiners lack the time, inclination, and training adequately to perform their duties.

"While the situation in law and medicine is in many respects quite different, still it is submitted that reasonably high standards are quite as important in the former as in the latter profession. Not only is there the individual aspect of the case, that the lawyer is often the

guardian of the property, reputation, and life of his client, but lawyers make the judges and a very large proportion of the legislators and executive officers, so that the character of the administration of justice, the quality of our legislation, and the enforcement of law depends upon them.

"Much of the widespread criticism of our profession can certainly be attributed to faults traceable to the free and easy way in which almost any one may be admitted to the bar. It is high time that our ancient and honorable profession were bestirring itself in this matter."

Several errors appeared in our article on this subject in the January JOURNAL, and additional facts were discovered too late to be inserted in that issue. We therefore give below first the table printed in an appendix to the 20th Annual Report of the Illinois State Board of Health, page xxix, and purporting to show the results of the examinations held by the Illinois State Board of Health from 1877 to date. There is a hiatus of six months, from January 1, 1899, to July, 1899, which might be supplied to make this table chronologically complete. We have reason to believe that this table is not absolutely correct, but such as it is we print it hoping to secure at some time a correct report.

Our readers will be interested to note that the average percentage of rejections of non-graduates was for 21 years, 66.7 running from 41.7 to 100. Dr. Egan entered the office about May 1, 1897. It is also interesting to note that during the next year (1898) more applications (46) were received from non-graduates than had been received in any year for 17 years, and that the percentage of rejections fell from an average of 66.7 to 23.9.

2d. The figures to complete the second table comprising the period from July 1, 1899, to December 31, 1901, were obtained from the volume entitled "Official List of Legally Qualified Physicians of the State of Illinois, March, 1902, published by the State Board of Health," page xxi. There is nothing in this table to indicate that any applicant appearing for examination during these eighteen months failed to secure a certificate. The law of 1899 went into effect July 1st and required that all applicants for license to practice in Illinois must submit to an examination by the board. Combining the reports of all examinations from all possible sources since July 1, 1899, we find that approximately 7,303 were examined; that the number rejected was 595; and the percentage of rejections was 8.14 per cent. The percentage of rejections from July 1, 1899 to January 1, 1908, was 4.6 per cent. The percentage of rejections for the years 1908, 1909 and 1910, or during which there has been frequent criticism of the laxity of the board's examinations, has been 16.4 per cent. Had this higher percentage prevailed during the entire period from 1899 to 1908, there would have been 603 fewer certificates issued by the board. Had the lower percentage prevailed during the past three years, there would have been 246 more licenses granted than the board appears to have given. To this extent then the agitation on the part of the professional organizations has done good.

NON-GRADUATE EXAMINATIONS

July 1, 1877, to June 30, 1898

Year	Applicants	Licensed	Rejected	% Rejection
1877-78	477	150	327	68.6
1879	73	22	51	69.6
1880	70	23	47	67.2
1881	27	13	14	51.9
1882	16	7	9	56.3
1883	18	..	18	100.
1884	13	2	11	84.7
1885	9	5	4	55.6
1886	13	6	7	57.9
1887	7	3	4	57.1
1888	12	7	5	41.7
1889	10	5	5	50.
1890	6	3	3	50.
1891	13	7	6	46.2
1892	14	3	11	76.6
1893	11	2	9	81.9
1894	34	14	20	58.8
1895	35	13	22	62.9
1896	36	14	22	61.1
1897	41	12	29	70.7
	935	311	624	66.7
1898	46	35	11	23.9

EXAMINATIONS UNDER THE LAW OF 1899 WHICH REQUIRES THE EXAMINATION OF ALL APPLICANTS FOR LICENSE TO PRACTICE IN ILLINOIS

Year	Applicants	Licensed	Rejected	% Rejection
July, 1899, to Dec., 31, 1901	930	930	0	0.
1902	589	576	13	2.2
1903	594	559	35	5.9
1904	762	728	34	4.5
1905	804	759	35	4.4
1905	817	748	69	8.4
1907	638	580	52	8.2
1908	754	640	108	14.5
1909	786	645	135	17.3
1910	629	507	114	18.1
	7,303	6,672	595	8.14

SENATE BILL NO. 32

Introduced by Mr. Beal, Jan. 17, 1911.

Read first time, ordered printed and referred to Committee on Judiciary.

A BILL

For an Act to amend the laws in relation to marriages, and requiring a doctor's certificate of health as a condition precedent to obtaining a license to marry, and providing a penalty for fraudulently issuing of such certificate. (Approved Feb. 7, 1874; in force July 1, 1874.)

SECTION 1. Be it enacted by the People of the State of Illinois, represented in the General Assembly: That hereafter marriages between parents and children, including grandparents and grandchildren of every degree, between brothers and sisters of the half as well as of the whole blood, between uncles and nieces, aunts and nephews, and between cousins of the first degree, are declared to be incestuous and void. This section shall extend to illegitimate, as well as legitimate.

SEC. 5. No license to marry shall be issued except upon a written and verified application. Such application shall contain a statement of the full Christian and surnames, color, occupation, birthplace, residence, ages of the parties, whether the marriage contemplated is the first, second or other marriage, together with the full Christian and surnames, residences, color, occupation and birthplace of their parents, including the maiden name of the mother; and such application shall further state under oath whether either of the parties is an imbecile, epileptic, of unsound mind, or under conservatorship, and whether either applicant is or has been within five years an inmate of any insane asylum or poor-house, and whether either of the contracting parties is afflicted with tuberculosis, syphilis or other transmissible diseases, and such application shall be accompanied by a certificate of a reputable practicing physician that the parties contemplating marriage are in sound bodily health, and free from any recognizable indications of transmissible disease; and no such license shall be issued if it shall appear from such certificate, or otherwise, that either of the parties is deficient in any of the requirements enumerated in this section.

SEC. 6. If any applicant for such doctor's certificate shall have been refused such certificate by any regular practicing physician, on account of such applicant suffering from any of the above enumerated diseases, he shall so state, and it shall then be the duty of the county clerk or such other officer whose duty it is to issue marriage licenses, to cause said applicant to be examined by three practicing physicians, and a certificate signed by two of said physicians certifying that said applicant is free from any of said diseases, shall be necessary before such license shall issue.

SENATE BILL NO. 5

Introduced by Mr. Glackin, Jan. 4, 1911.

Read first time, order printed and referred to Committee on Appropriations when formed.

A BILL

For an Act to provide for the location, erection, organization and management of a state sanatorium for persons afflicted with tuberculosis, etc.

(An appropriation of $300,000 is called for to carry out the provision of this bill.)

SENATE BILL NO. 51

Introduced by Mr. Glackin, Jan. 18, 1911.

Read first time, ordered printed and referred to Committee on Railroads and Warehouses.

A BILL

For an Act providing for the licensing, regulation and inspection of cold storage warehouses and regulating the sale of articles of food stuffs stored therein, or in any cold storage warehouse.

SEC. 2. .....Such application shall be accompanied by a report or certificate, from the commissioner of health of any city or village where such officer may exist, and in such cities and villages having no commissioner of health or any officer performing the duties of such commissioner, then such application shall be accompanied by a certificate or report from the State Board of Health, stating whether the place in which such applicant proposes to carry on such business is in a sanitary condition and is a fit place in which to carry on such business. If such report shall be to the effect that such place is a fit place and in a sanitary condition in which to carry on said business the Mayor or President of the Board of Trustees shall cause to be issued to such applicant a license authorizing such applicant to carry on the said business for and during the period for which said license shall be issued upon payment by such applicant to the proper authorities of any such incorporated city or village of a license fee of five hundred dollars ($500) annually, and the filing of a bond running to the incorporated city or village as the case may be, with at least two sureties to be approved by the Mayor or President of the Board of Trustees in the sum of ten thousand dollars ($10,000), conditioned that such licensed person or corporation shall faithfully observe and obey all laws of the State of Illinois and the ordinances of such incorporated city or village, as the case may be, now in force or which may hereafter be passed with reference to such business.

(The Vital Statistics bill has also been introduced but it is not yet out of the hands of the printer.)

L. C. TAYLOR,
Chairman, Legislative Committee.

PRESIDENTIAL ADDRESSES BEFORE THE ST. LOUIS MEDICAL SOCIETY

At the recent annual meeting of the St. Louis, Mo., Medical Society, short addresses were made by the retiring president, Dr. Henry Schwarz, and the incoming president, Dr. Robert E. Schleuter, which we consider worthy of remark. It will be remembered that the St. Louis Medical Society, to the great gratification of the friends of Medical Organization in the West, acquitted itself nobly in entertaining the American Medical Association, at its 1910 meeting. Dr. Schwarz, the then president of the society, was the Major General in command, and much of the success of the great meeting was due to him.

Referring to this meeting in his farewell address, Dr. Schwarz says: "This grand convention is now a matter of history; the sacrifices of time

and money which it imposed upon our members, are no longer remembered, but the benefits which it has brought to the St. Louis Medical Society are indeed great and enduring.

"The work of the year has brought our members into closer fellowship; the visit of the parent body has led to a general understanding of its wonderful organization and of its well-directed efforts to advance medical science, to elevate the standard of medical education and to secure the enactment and enforcement of just medical laws; more than ever before do our members realize that it is their duty to participate in this work and that state-wide improvement in medical education, and in the regulation of medical practice and in the material welfare of the medical practitioner can only be achieved through the united efforts of the organized medical profession."

He also has a word to say regarding the duties and responsibilities of a large medical society concerning the education of the public and the supervision of the medical schools, and the examining and registering of physicians as follows: "Our members begin to understand that it is their duty to enlighten public opinion regarding questions of public health; they begin to understand that it is a simple duty of every-day community and of every state to take proper care of its sick poor, and to provide proper pay for the medical men who are to do this work; they begin to understand that the state must not only supervise the medical schools and the examination and registration of physicians, but that the state must likewise provide adequate means for medical education; they begin to understand that to bring about these much needed improvements it is necessary for the organized profession of Missouri to educate the people of the state in these matters and to bring its united influence to bear on our legislators and force them to take the necessary action."

Dr. R. E. Schleuter makes the following commendable statement regarding the relation of the local society to the state organization: "Furthermore, it is essential that this society remain on the most friendly terms with the Missouri State Medical Association; this, however, without mixing their separate affairs. By this I do not mean that we should yield to the state association in all matters. But we should also assume no dictatorial attitude because we supply more than one quarter of its membership. In fact, for that very reason, we must shoulder a large share of the responsibility in the proper maintenance of medical ethics and dignity in the state. We should co-operate as much as possible with those from the rest of the state and only expect them to meet us half way. The men from the other cities in the state and from the rural districts may not feel as kindly towards us as we might desire. Our dealings with them in all things, therefore, should be conducted with the utmost generosity and liberality. For the city of St. Louis must rid itself of the provincial spirit and become a real metropolis. Its medical profession must assume such shape and proportions as will be commensurate with the size and influence of the city."

Regarding the duties of the members to their societies he makes the following statement: "Sooner or later our members will attend in larger

numbers the meetings of the state and national associations and take a greater part in their deliberations, both scientific and administrative. Those practitioners who know that it is more than a satisfaction to be connected with the advancement in medicine and surgery, will become more numerous among us, whether by home production or importation. And those who calculate merely the material value of this society and continue their membership just for the standing in the community which it gives them, will become fewer and fewer."

With such sentiments every reasonable practitioner must heartily agree, and we prophesy for this representative society of our near neighbor a continuation of the excellent work already begun. Certain individuals and a large organization in Illinois might read these expressions with profit.

SHOULD HEALTH CERTIFICATES BE REQUIRED TO SECURE THE MARRIAGE LICENSE?

Senator Beal of Alton has taken up this subject at the instance of the medical profession of Madison County, and introduced the bill which will be found in our legislative columns, and which demands the serious consideration of the members of the State Medical Society. In this connection the paper by Dr. Fiegenbaum, secretary of the Madison County Medical Society, will be read with interest.

This matter is also agitated by the law-makers of Oklahoma. Representative J. V. McClintic of Swanson County, recently introduced in the lower house of that legislature, a similar bill, and will bend his efforts to have it enacted into law prior to the close of the session.

"The measures provide that the examination shall include all classes and forms of illness and disease that would make a man or woman an unfit husband or wife, father or mother. Under the provision of the bill it will be necessary to have a certificate of health accompany every marriage license, by those who are authorized to reject applications unless accompanied by a clean bill of health."

Of course this matter must be thoroughly canvassed before such a bill is permitted to pass. The opportunities for graft are too patent to put the temptation before the average physician. For under the present bill no provision is made which will permit the appointment of one or more physicians in each county, as examiners, and as it now stands the certificate of one physician will be as good as that of another.

Agitation of this subject however, will do no harm, and it is possible that a bill satisfactory to all might be obtained.

THE GENERAL ASSEMBLY

As is well known to our readers the legislature of Illinois has been supposed to be in session during the month of January, and they are also probably aware that absolutely nothing has been done up to this time, except to introduce a few bills. A synopsis of the bills of interest

to the medical profession thus far introduced has been prepared by Dr. L. C. Taylor of Springfield, Chairman of the Legislative Committee, and will be found in our columns. From time to time during the session, information will be transmitted to every member of the State Medical Society, regarding legislative matters, and we invite the earnest consideration of every member to this important matter.

There is a rumor current that a great deal of politics will be played during the session, and it is reported that the speaker of the House is to be a candidate for Governor. In this event it can be presumed that the presiding officer will be very responsive to the wishes of a large and representative body, such as the Illinois State Medical Society.

THE AURORA MEETING

The next meeting of the Illinois State Medical Society will be held at Aurora, and as this is the first meeting ever held in that hustling little city, the members of the local profession are making every effort to score a success. Many elements will contribute to make this meeting very important, and we hope that a large number of the members will be present. This will involve a considerable sacrifice on the part of the members of the southern part of the state, but we believe that the meeting will be of such importance that none having the good of the medical profession at heart, can afford to remain away.

In our March, April and May issues further information regarding hotels and programmes will be given in the columns of the JOURNAL.

THE MAINE MEDICAL JOURNAL

Another state society has abandoned the old style of transactions and adopted the journal form of supplying its members with the proceedings of the state medical society and its component county societies. The remarkable change which has taken place in the past twelve years, since the Illinois State Medical Society took the leadership in this matter, is worthy of remark. The probability is that before many years every state medical organization will be represented by a journal, and we are furthermore gratified to see that the Maine society has also followed in the footsteps of Illinois and dubbed its journal the *Maine Medical Journal*, rather than the long and cumbersome title adopted by so many of the state society journals.

Our farthest east state is now the thirty-first of the states and territories of the Union to be represented in this manner. The Massachusetts and Louisiana State Societies are represented by old established journals. We congratulate the society and the editor, Dr. F. Y. Gilbert of Portland, on the good appearance and valuable contents of the first two numbers of the journal, the first appearing in December, 1910. The

Journal is supplied with a large corps, sixteen in number, of associate editors and a board of managers of eleven members. Of course one or two of these men will do the actual work and will be responsible to the society for the success of the *Journal*.

We congratulate the Maine association and prophesy great success for the new venture.

DR. EGAN HAS PROBABLY FORGOTTEN WRITING THIS LETTER

Under date of Sept. 1, 1906, Dr. Egan wrote to the Editor of the *Journal of the American Medical Association:*

"As to the standing given by your tables to Illinois, on which the foregoing figures have considerable bearing, I desire to say a word.

"Illinois does not pretend to be a state in which exactions in medical examinations are unusually severe. The statute requires that the examination "shall be of a character sufficiently strict to test the qualifications of the candidate as a practitioner," and the State Board of Health endeavors to carry out the provisions of the law. If the candidate shows sufficient evidence of his ability as a practitioner, it becomes the duty of the board to grant him a certificate.

"The showing that Illinois rejects a smaller percentage of Illinois graduates than of those of other states is largely due to the fact that the board is called on to examine so large a percentage of graduates of Illinois colleges whose alumni receive uniformly high grades in all states and also to the fact that but 7 per cent. of the applicants appearing before the board and coming from outside the state represent those colleges showing less than 10 per cent. of failures.

"The Illinois State Board of Health acts as an examining board rather than as an examining and rejecting board."

CONFERENCE ON MEDICAL EDUCATION AND MEDICAL LEGISLATION

The annual joint Conference on Medical Education and Medical Legislation, called by the Council on Medical Education and the Council on Health and Public Instruction of the American Medical Association will be held at the Congress Hotel, Congress Street and Michigan Avenue, on Wednesday, Thursday and Friday, March 1, 2 and 3, 1911. Following the plan adopted last year, the first day of the conference will be devoted to medical education, the last day to medical legislation, while the second day will be given to a discussion of state regulation of the practice of medicine. The first day's program will include several papers as follows: "Entrance Examinations," by Dr. Thomas S. Fiske, Secretary of the College Entrance Examination Board, New York City; "Subjects Included in the 'Two Years of College Work' Required for Admission to Medical Colleges," by Dr. Charles R. Bardeen, Dean of the School of

Medicine of the University of Wisconsin, Madison; "A Five-Year Medical Course," by Dr J. George Adami, Professor of Pathology, McGill University, Montreal; "Laboratory Equipment and Instruction," by Dr. E. P. Lyon, Dean of the St. Louis University School of Medicine; "Equipment and Instruction of the Clinical Years," by Dr. George Blumer, Dean and Professor of Medicine, Yale Medical School, New Haven; "The Educational Function of Hospitals," by Dr. Frank Billings, Dean of Rush Medical College, Chicago; "Valuation of Credentials," by Dr. Frank B. Hiller, Secretary of the Missouri State Board of Health, Jefferson City; "The State License Examination," by Dr. Horace G. Norton, Secretary of the New Jersey State Board of Medical Examiners, Trenton, and "Interstate Reciprocity," by Dr. W. T. Gott, Secretary of the Indiana Board of Medical Registration and Examination, Indianapolis.

On Wednesday evening, March 1, a public meeting will be held in the Florentine Room on the second floor of the Congress Hotel. Addresses will be given by Professor George E. Vincent, President-elect of the University of Minnesota; Dr. Edmund J. James, President of the Illinois State University, and Dr. Wm. L. Bryan, President of the Indiana State University. The subject for the evening meeting will be "The Duty of the State in the Protection of Public Health."

The morning session, on Thursday, March 2, will comprise papers on "The Attitude of the Judiciary in the Enforcement of Medical Practice Acts," by Judge Jesse A. Baldwin, of the Appellate Court, Chicago; "Considerations Which Should Influence Appointments on State Examining Boards," by Hon. A. O. Eberhart, Governor of Minnesota, and "What should be the Attitude of the State Toward the Practice of Medicine?" by Dr. M. L. Harris of Chicago.

The afternoon session will be opened by Professor C. R. Henderson of the University of Chicago, on "The Regulation of the Practice of Medicine for the Public Good," followed by a symposium on "The Administration of State Medical Practice Acts." This will include papers by Dr. A. B. Brown, Secretary of the Louisiana State Board of Medical Examiners, on "The Administrative Duties of the State Board of Medical Examiners"; by Mr. A. C. Umbreit of Milwaukee, Attorney for the Wisconsin State Board of Medical Examiners, on "Medical Prosecutions and Revocation of Licenses"; by Mr. Jas. N. Wilkerson, of Fort Worth, Tex., Attorney for the Texas State Board of Medical Examiners, on "The Defense of Medical Practice Acts in the Courts"; and by Dr. Herbert Harlan, President of the Maryland State Board of Medical Examiners, on "Financing State Board Work." The last paper on the afternoon program will be "Suggested Features of a Model Medical Practice Act as Shown by Supreme Court Decisions," by Dr. Frederick R. Green, Secretary Council on Health and Public Instruction, Chicago.

On the third day, the National Legislative Council of the American Medical Association will meet to consider medical legislation. The morning session will be devoted to routine business, reports of committees, roll call of states, reports of officers, etc. In the afternoon, new

business and reports of reference committees will be considered. Dr. Cressy L. Wilbur, Chief Statistician of the Bureau of the Census, will present a paper on "Progress in Vital Statistics Legislation," and Dr. H. M. Bracken, Secretary of the Minnesota State Board of Health, will present a paper on "Needs of Public Health Education in the United States." The presentation and adoption of the report of the committee on resolutions will close the program.

This conference will be attended by representatives of state medical societies, medical colleges and universities, delegates appointed by governors, representatives of state boards, members of the National Legislative Council and members of the Councils on Medical Education and Health and Public Instruction. It is anticipated that the attendance last year of over 200 will be exceeded this year. A cordial invitation is extended to all physicians of Chicago and Illinois to attend this conference and to take part in the discussions.

Correspondence

SCARLET FEVER GERMS AND THE STATE BOARD OF HEALTH

EVANSTON, ILLINOIS, Jan. 16, 1911.

To the Editor:—The January number of the JOURNAL contains two items of more than local interest. The article of Dr. Stubbs contains on page 56 some reference to the scarlet fever epidemic of 1907. The author seeks, by assertion only, to dispute the evidence that the disease was spread by milk. I think that if he will carefully read my article, published in the *Journal of the American Medical Association* for April 5, 1908, he will find the proof as complete as it is possible to make it with our present state of knowledge. He seeks to discredit such evidence by the statement that no germs were found. Can he describe the specific germ of scarlet fever? If he can, he owes it to the profession, which has so long sought such information, that he lose no time in giving such evidence. Has any one found the specific germ of yellow fever? Yet does Dr. Stubbs dare to say that the *Stegomyia calopus* mosquito does not spread the disease? He quotes an article by Dr. Doty of New York, written in 1893, to uphold his theory of the spread of diseases, but he forgets that we have learned much of typhus fever since that time. Unfortunately, either Dr. Stubbs has not kept in touch with the investigations relative to tuberculosis, or he does not read with an open mind, or he would not to-day question the possibility of the conveyance of that disease by the drinking of milk. His tirade against pasteurization of milk ignores the mass of evidence on that subject, and ends with an assertion, unsupported by a particle of evidence.

On page 82 are to be found the resolutions passed at a meeting of the Chicago Medical Society. The fourth paragraph contains the statement

that the charges and criticisms against the State Board of Health have thus far been unsupported by competent evidence. This is not true. Legal evidence has been filed, but as yet those charges have not had an investigation by the "legal authorities." In that connection, as well as with reference to the article by Dr. Stubbs, permit me to again call attention to my article on scarlet fever, and the reply of the secretary of the State Board of Health in the same number of the *Journal of the American Medical Association*. If, as stated by the secretary, they could find no evidence that the scarlet fever was the result of infected milk, why did the representatives of the Board take a part in the closing of the bottling plant? In my article I give the name of a farmer living at Y, in whose family there were several cases of scarlet fever while he was daily shipping milk through the bottling plant at X. The milk cans from Y were put on a car to be taken to the bottling plant at X, where the milk was bottled. In Dr. Egan's reply he denied the possibility of X milk being infected, but admitted that they had found scarlet fever at Y, and added that evidently we had not discovered the disease at Y. This was disproved by my article, because I named families there infected.

Because we were after the scientific facts, and did not wish to injure unnecessarily the milk company, the name of the milk company, as well as the name of the bottling plant, and the neighboring station which we called Y, were not given. This is only one item of the evidence submitted that the present administration is at least incompetent.

HENRY B. HEMENWAY.

WHEN DOCTORS DISAGREE WHO IS TO DECIDE?

CHICAGO, January, 1911.

To the Editor:—Again it is the "Rump House of Delegates"—my third *revised* edition of that controversy of the doings of the House of Delegates at Danville.

In reading the communication of Dr. Collins in the November ILLINOIS MEDICAL JOURNAL giving his version of the affairs that happened at the State Medical Society at Danville I am surprised at the position he assumes. But I suppose when a man takes a Rip Van Winkle pose for six months we ought not to be astonished at any attitude he might take. I have wondered why Dr. Collins did not make his understanding of the *res veritas* public earlier and not wait until memory had been befogged so that it had to be coached by a biased prompter. As the secretary of the Illinois State Medical Society will not give a copy of the minutes of the proceedings on that memorable never-to-be-forgotten occasion, let me give a very brief synopsis of the doings. After Dr. Lydston presented his resolutions the following took place:

1. A motion was made to table the resolutions.
2. Said motion was lost.
3. A roll-call was demanded and granted.
4. Result, motion was lost.
5. Dr. Lydston moved the adoption of the resolutions.

6. Somebody's machine feet became chilled (it was a hot day) so he made a motion to adjourn and it was seconded.

7. Chairman put motion and it lost.

8. At this point the chairman became nervous, conscience stricken, hesitated, then in a feeble voice said the "ayes have it."

9. There was an immediate demand for a roll-call, which was a correct procedure, according to the rules of debate. See Roberts' Rules of Order.

10. Then came the climax. The chairman declined to grant the demand made by a score of delegates for the roll-call and then vacated the chair.

11. At the call of delegates the second vice-president immediately took the chair vacated by the first vice-president. The house was polled and nineteen according to the secretary, not counting himself which made twenty, and one in the chair, making twenty-one; and during the talkfest another delegate came in making twenty-two.

12. A request was made for the reading of the stenographer's minutes.

13. These minutes showed that Dr. Lydston offered his resolutions; that a motion to adjourn was made; that this motion was put; that the chairman declared the ayes have it; that a demand was made for a roll-call, and while the demands were being made the chairman vacated his official chair and joined the stampede for the door.

14. Please note that *after* the motion to lay said resolutions on the table (which motion the chairman admitted was lost) Dr. Lydston moved the adoption of his resolutions which was followed by a breezy time.

Why does Dr. Collins omit to mention this fact? Was he asleep; not onto his job; or so badly mixed that he failed to note Dr. Lydston's motion? Surely five months' thinking and a reasonable amount of coaching ought to have put him in remembrance of this important point.

Dr. Collins wishes to make a correction as to my statement as to the quantity—not quality—that left the hall. He desires to make change read: "A large *majority* of the delegates left the hall and the chairman refused a roll-call." I do not see that that helps the dilemma, as long as we contend that a quorum remained which gave the right to carry on a legal session. Now as to facts. I believe, and am justified in that belief (by the testimony of over twenty delegates) that not a single delegate left the hall until the vote to adjourn was counted, and when the chairman said the ayes have it; and before the announcement was officially, legally made, the stampede began.

But before the declaration was made by the chairman the demand for a roll-call was made by a score or more of delegates.

The only thing I noticed the chairman do, was, instead of striking the table he "struck out, literally, for tall timber."

Now as to the number of delegates remaining in the assembly room after the chairman had "struck out"; Dr. Collins says that Dr. Weis counted nineteen on the floor: all right, where was the one in the official chair, and where was the secretary, and where was the President? (I have been informed that he was in the back part of the hall out of sight.)

Nineteen on the floor plus one in the chair makes twenty and the secretary makes twenty-one. Twenty is a quorum and I counted twenty-three.

Did our noble, courageous, valiant secretary flee with the weak-backed and cold footed? No. He remained and faced the issue. His presence was noted until the legal, final adjournment was made. He with his official stenographer tarried, thereby tacitly acknowledging the legality; helped to make it legal. Oh no, it will not do to go forward like a crab at this stage of the play. Dr. Weis even went so far as to have the stenographer read some of the minutes and took active part in the meeting and talkfest.

The secretary does not seem to comprehend his position in the case. He is a stand-patter and a stand-patter is a mossback, and a mossback is a rut trotter, and the rut is so deep he cannot see out so is forever doomed to be in the dark. *Vincit omnia veritas.* Again as to the last sentence in Dr. Collins' communication. He says "it would have been manifestly unjust to have ordered a roll-call when fully three-fourths of the delegates had left the hall, and the chairman refused to do it." I would like to ask as to how it would have been unjust or unfair? If three-fourths of the delegates wish to avoid the issue of a question and desert and leave one-fourth of the members to do the business, they have no one to blame but their own cowardice. That one-fourth left constituted a quorum and their demands for a roll-call should not have been ignored. Allow me to quote from the editor of the ILLINOIS MEDICAL JOURNAL: "The best legal authority has given an opinion that when Dr. Collins announced that the vote to adjourn was in the affirmative it was absolutely unnecessary for him to make any announcement or declaration whatsoever."

That is a square admission that the chairman (Dr. Collins) did not make the alleged announcement or declaration, "we are adjourned, or the House stands adjourned."

For authority for my position see Chap. xl, Sec. 3, then consult Roberts' Rules of Order on Motions, Page 63.

Ultima thule.

Yours very truly,

JAMES E. STUBBS, M.D.

Special Article

THE MEDICAL PROFESSION MUST CHANGE ITS TACTICS

WILLIAM J. ROBINSON, M.D.
President of the American Society of Medical Sociology.
NEW YORK CITY

He who is not a frequent visitor to radical clubs, does not come in contact with newspaper men, with New Thoughters, and does not read regularly the numerous naturopathic, health culture and physical culture journals, and other allegedly advanced publications, can have no idea how the medical profession is ridiculed, how it is maligned, how it is lied about, how it is misrepresented, how it is "knocked" on every possible occasion.

We are pictured as ignoramuses, grafters, butchers, anxious to operate whether there is a necessity or not, drug dopers, etc., etc. We are denounced as a trust, monopoly and any attempt of ours to organize, to pass laws protecting the public health, is characterized as an attempt at class legislation, a desire for special privileges, inspired by our fear of the competition, by our fear of the superior skill of our irregular rivals.

And the average physician who has not given the matter any thought, has no idea what effect these unceasing slanders and persistent lies have on the public mind, how suspiciously a large part of the public is beginning to look at the medical profession, how we are losing the confidence of the people, how the ground is slipping from under our feet.

As an illustration we need only mention the reception that has been accorded to the suggestion of a Federal Department of Health. The motives that actuate us and the objects of such a department were at once misrepresented, the people were made to believe that their freedom to choose a medical adviser was threatened, the forces of reaction and obscurantism, masquerading in some instances under the guise of liberalism, were quickly marshalled and in a short time a society was organized, which now claims a membership of one hundred and fifty thousand.

We physicians are ourselves to blame. When the irregular, fantastic and pernicious cults began to make their appearance, we paid no attention to them. We thought they amounted to nothing, and would soon dry up and shrivel away of themselves. When the malicious attacks began to appear in the various quack publications, we remained silent. We considered it *infra dignitatem* to pay attention to them, and we thought that the public would have no difficulty in seeing through their falsity and meretriciousness.

Our long and patient inactivity has been due to the false idea that the truth will always triumph and error is bound to die. Yes, eventually; but if error is allowed to grow and spread unhampered, while those who see the truth will not take the trouble to proclaim it and expose the error, then it can take centuries before the correctness of the truth and the falsity of the error will be perceived.

In this as in every other line of human activity prevention is immeasurably superior to cure, and the right way to fight error is not to permit it to get a firm foothold. Error and superstition are hard things to uproot after they have attained the dignity of a universal belief.

It is time that the medical profession change its tactics and assume a wideawake, militant attitude. It is time that we actively attack error wherever it shows its head. By reading papers before lay audiences, by participating in discussions, by writing to the newspapers, by refuting the false arguments of false prophets wherever they appear, we can do much toward destroying the influence of the quacks and the irregular cults. In short, we must throw off our exclusiveness, we must go out to the public and take it into our confidence.

The truth is with us—that we know; only we must not hide it under a bushel and expect that its light will, without any effort on our part, penetrate into the darkest recesses of ignorance and quackery.

COUNTY AND DISTRICT SOCIETIES.

CHRISTIAN COUNTY

The Christian County Medical Society held its meeting at the Court House in Taylorville, January 19, 1911. The following officers were elected for the ensuing year: President, Dr. J. H. Miller, Pana; vice-president, Dr. T. A. Lawler, Taylorville; secretary-treasurer, Dr. H. M. Wolfe, Taylorville; delegate, Dr. A. F. Turner. Censors: Drs. Armstrong, Nelms and Carroll of Taylorville. Dr. John N. Nelms, was made a member of the legal committee; Dr. Jesse P. Simpson of Palmer, of the public health committee; Drs. D. D. Barr, C. L. Carroll, G. L. Armstrong, Wm. H. Frazer, and Thos. A. Lawler of Taylorville of the resolutions committee.

COLES COUNTY.

Coles County Medical Society met at the Charleston Hotel, Tuesday, January 3, 1911, at 7 p. m., with president Voight in the chair. Twenty-five members were present. The application of Dr. P. E. Kimmery of Lena was unanimously accepted by the society for membership. The applications of Dr. C. H. Harwood of Janesville and Dr. R. C. Cook of Trilla were read before the society and referred to the censors to report on at the next meeting. The society gave a banquet at the Charleston Hotel attended by 25 members, after which Dr. A. C. Cotton of Chicago gave an hour's talk on "Infantile Paralysis," which was greatly appreciated by the members.

The Coles County Medical Society never was in better condition than now; with great interest taken at each meeting; with good papers and good discussions and good attendance. The following officers were elected: President, Dr. O. W. Ferguson; vice-president, Dr. G. B. Dudley; secretary and treasurer Dr. R. H. Craig; censor, Dr. J. T. McDonald; delegate to the state meeting, Dr. R. J. Coultas; alternate, Dr. T. O. Foreman.

COOK COUNTY

CHICAGO MEDICAL SOCIETY

Regular Meeting, Nov. 16, 1910

DISCUSSION ON THE PAPER OF DR. THAYER

DR. FRANK BILLINGS: The main thing I desire to say is that I have heard Dr. Thayer read many papers and as usual he so fully covers the subject that there is nothing left for anyone else to say. I think any practitioner of moderately wide experience has seen many cases of hemolytic jaundice, what Dr. Thayer calls the secondary type. This is due to some of the infections, namely, streptococcus and pneumococcus infections. Some of the patients suffering from pernicious anemia, also exhibit a type of hemolytic jaundice which Dr. Thayer has covered fully. Again, I have never seen a case which I could say belonged to the type of primary hemolytic jaundice. Possibly I have seen one of the acquired types. That was a student at the Northwestern University 23 years ago. I remember it so distinctly because he came to me several times after he entered school to be examined for jaundice, giving the history of having had it as long as he could remember, and that it never caused any disturbance of his general health. The physical examination showed a distinct jaundice, but no biliverdin in his urine, and no temperature. In the examination one could not detect enlargement of the liver or any tenderness in any part of the bile apparatus. He had

no bradycardia. He carried out his work for three years, graduated, and went out in practice. I thought at first that he suffered from an ordinary obstructive, catarrhal jaundice, but the absence of the biliverdin soon discredited that diagnosis, and the long jaundice also discredited it. I have seen him twice since then, and he still had the jaundice. Five years ago I met a cousin of the man and he says that he still has the jaundice. After hearing Dr. Thayer's paper I have decided to send for him and look into the character of his blood. Like the rest of you, I feel that we should thank Dr. Thayer for the complete discussion he has presented of an important subject.

DR. K. KOESSLER: I had occasion to see several cases of hemolytic jaundice under Chauffard and Widal in Paris, among them some of the cases referred to by Dr. Thayer. Later I had the opportunity of observing a case here in Chicago, which was related to this symptom complex.

As far as acquired hemolytic jaundice is concerned, it may be divided into primary and secondary. In the secondary form there exists a definite etiology, carcinoma, rectal abscess, diphtheria, malaria, etc. Here belongs a case reported by Landouzy a few weeks ago, in which the characteristic symptoms of hemolytic jaundice were associated with pulmonary tuberculosis. There is some relation between certain cases of hemoglobinemia and hemoglobinuria and hemolytic jaundice. Sydney Ringer mentions the case of a boy aged 17 years who developed jaundice if he stayed in a cold room and in the winter, whereas the icterus disappeared in a warm room and during the summer.

I observed a case of hemoglobinuria with slight jaundice, in which the resistance of the erythrocytes, tested with hypotonic salt solutions and normal serum, was considerably lowered. Donath-Landsteiner's test was negative. These findings differ from those of Dr. Thayer, but are in accord with those of Meyer and Emmerich, who too, found the resistance lowered in some cases of paroxysmal hemoglobinuria. By no means do I wish to be understood as considering these two conditions identical, but there does exist a certain similarity in some of the symptoms, such as the increased fragility of the red blood corpuscles.

As far as the primary form of hemolytic jaundice is concerned, I prefer the term chosen by Dr. Thayer, cryptogenetic, which accords better with the present insufficiency of our knowledge. A few words concerning the differential diagnosis. Pernicious anemia especially very much resembles the symptom complex of hemolytic jaundice. The test of autoagglutination, referred to by Dr. Thayer, was absent in v. Steyskal's cases and in my own. How shall we, then, differentiate these two diseases? First, by the leukocytosis, characteristic for hemolytic jaundice. Every clinician who has had occasion to follow the course of pernicious anemia by weekly exact blood examinations, will have observed that periods of improvement occur during which not only the red blood corpuscles may reach almost a normal figure, but the leukocytes may be normal or even slightly increased in number. These periods of improvement were called blood crises by von Noorden, and at such a time, the blood picture of pernicious anemia and hemolytic jaundice may be indeed very similar. A close observation, however, of the course of the two diseases will soon correct this view. Pernicious anemia during the blood crisis shows leukocytosis together with the highest red count and the subjective condition of the patient is at its best. In hemolytic jaundice, on the other hand, the highest leukocyte count will be found when the patient's erythrocytes are at the lowest mark, and the condition of the patient is the worst.

Dr. Thayer, further, mentioned Banti's disease; Banti recently published a review of eleven cases of his disease. In not one case was the resistance of the blood corpuscles diminished.

The differentiation of pernicious anemia and hemolytic jaundice is certainly of greatest importance as regards the prognosis. One of Widal's patients with hemolytic jaundice, showing the primary type of the disease, has been in good health for eight years. The diagnosis "pernicious anemia" in the epitheton contains the fatal judgment for the near future.

As far as the treatment of hemolytic jaundice is concerned, there is the question: Have we any drug to increase the lowered fragility of the blood corpuscle? The only sure means known as yet to do this is the intravenous, or preferably, the intragluteal injection of normal defibrinated blood. It is, however, a *conditio sine qua non* that before the autotransfusion the patient's blood is examined for isoagglutinins and isolysins.

Dr. Joseph M. Patton:—I wish to express my appreciation of Dr. Thayer's very interesting delineation of certain blood findings which promise something toward relieving the general practitioner from the mass of doubt which entangled him at every step in dealing with cases of jaundice which are not clearly obstructive. The literature of the last ten years on this subject is rather mixed. The more we read of it the less we know of the subject. There are those who have tried to prove that there was no such thing as hemolytic jaundice; that because bilirubin was formed from the coloring matter of the blood the liver was a necessary agent in the production of an excess of bile pigment in the system; we therefore had no right to assume that there could be such a thing as hemolytic jaundice. The argument of polycholia and the varying conditions of pressure under which the production and absorption of bile takes place do not explain why jaundice occurs in cases where these conditions could not be demonstrated. Even the cases of apparently infectious origin, and the cases of so-called nervous jaundice are explained by those who adopt these theories as due to variation in pressure owing to splanchnic effects, spasticity of the ducts and other like causes, to prove that these effects are dynamic in connection with the circulation of the bile ducts and organs of the liver. The ordinary man had gotten into the position where he did not have enough nerve to make a diagnosis of hemolytic jaundice in contradistinction to obstructive jaundice. Now we come to a period of observations as delineated by Dr. Thayer, which promise some way of making a diagnosis, and leading us out of this wilderness. My own personal experience in the matter of the blood findings amounts to nothing. I deal with these cases clinically and not in the laboratory, and therefore I know nothing about the blood findings any more than the ordinary observations we make in these cases. I have noticed in cases of supposedly infected jaundice, and in one or two cases of so-called nervous jaundice recurring after marked psychic impressions, that the blood-count was much lower, and that there usually was neither biliuria or hemoglobinuria. The blood findings to-night appear to be of great value, and I think that the future holds out a promise toward the differential diagnosis of these conditions and the recognition of an essential hemolytic jaundice.

Dr. John A. Robison:—I wish to express my thanks to Dr. Thayer for the very extraordinary paper. It is certainly replete with suggestions to the general practitioner. I have profited very much by listening to the paper. In the first place, I gather that the cause of the disease is not known. In the second place, I gather that it has an entity, and can be differentiated from various other forms of jaundice. That is the point that is of greatest importance to practitioners who are not laboratory workers. The most important point is that we who are not expert hematologists, when we find clinical signs which seem to point to hemolytic cases, should at once refer such cases to the expert hematologist.

Dr. A. C. Croftan:—I understood Dr. Thayer to say that bile acids were never found in the blood of any of these cases. In view of the fact that bile acids, in small quantities, it is true, are a normal constituent of the blood, this is an astonishing and interesting statement. For it signifies one of two things, viz., either that the chemistry of the blood was not so carefully studied as its morphology, and that hence the presence of bile acids escaped detection, or that they were actually looked for (as one would infer from the express statement that they were *not found*) and discovered absent; hence that one would be dealing in these cases with an interesting anomaly in this direction.

The presence or absence of bile acids is important, because the interpretation of the icterus as hepatogenous or hematogenous or h-hep may be said to depend

on this point; the bile acid being formed according to the commonly accepted view (that is, however, by no means definitely established) in the liver alone. Complete absence of bile acids from the blood in an icterus case would therefore by all means characterize that icterus as hematogenous. I believe this point should be more carefully studied with considerable quantities of blood. It has more than an academic interest. For one must remember that the bile acids are in themselves decidedly hemolytic and, unless their presence can be definitely excluded, one cannot deny the possibility that they possibly constitute the toxic element of unknown character and origin that aids in the hemolysis described, and that in its turn is claimed to produce the formation and circulation of bile pigments liberated from abnormally liberated blood pigments.

In closing the discussion Dr. Thayer said:

I was very much interested to hear Dr. Koessler state that the resistance of the corpuscles in paroxysmal hemoglobinuria has been found to be reduced. In several cases observed by my friend, Dr. Moss, this has not been the case. With regard to the question of viscosity, I can only say that it was not tested. The two cases which I have observed myself were of the congenital class. In each instance bilirubin was found in the serum and uribilin in the urine. There was no bile pigment in the urine. In each case there was marked diminution in the resistance of the red corpuscles. One word with regard to the question of a drug which will increase the resistance of the corpuscles. Some work done in the laboratory of Dr. Roger S. Morris, several years ago, appeared to show a slight increase in the resistance of the red corpuscles after the long administration of iron.

With regard to the statement that bile acids were not to be found, I take it that observations were made in the ordinary way. The statement is made by very good men simply that bile acids were not to be found.

DISCUSSION ON THE PAPER OF DR. ROBERTS

Dr. W. L. Ballenger:—I was very much interested in the opening remarks of Dr. Roberts, and was very much impressed with the practical turn his mind has taken in reference to plastic surgery, and one particular portion of it, namely, that it is often necessary for one to be free with the knife, chisel or gouge, so as to liberate the parts that they may be moved into position to correct the deformity. That, according to my experience, is one of the essentials in correcting deformities of the face. I cannot enter into a discussion of all the phases of the subject, even had I the time, but I will limit my remarks to two or three conditions. In one case with a very long pendulous nose, I obtained a very interesting and satisfactory result in its correction. The patient came to me to have the pendulous tip obviated. I resorted to the expediency of removing a V-shaped portion from the septum, and then bringing the freshened edges together and strapping the nose with adhesive plaster. Instead of the nose being pendulous he now has a nose that stands straight out from the lip, or nearly so, and is a normal appearing nose.

The second case is one I have called the "cyclone nose" because the injury occurred in a cyclone. The man was lying in bed, with two babies in his arms, and was carried some 200 feet, both babies being killed. When he came to me he had a very long nose. The lower part of his nose and lip were dislocated downward, so that the nostrils rested on the gums of the upper jaw. It had become adherent in this position, without the knowledge of the attending surgeons who waited on him at the time of the accident. The right nasal bone was entirely gone. The central portion of his nose was scar tissue and much sunken. I made a triangular incision around the scar tissue and removed it, and then dissecting the skin over the naso-frontal process, I chipped off a portion of it, leaving it attached to the periosteum and filled in the defect made by the loss of the nasal bone. At the same time I dissected the lip loose from the superior maxilla up almost to the orbits. The end of his nose and cheek and lip were thus entirely

freed. I then introduced sutures from either lower angle of the triangular incision, tied them and thus drew the nose and lip upward. I introduced large tubing into the nostrils to prevent adhesions and maintain the nose and lip in their elevated position. At the end of two weeks he had a good breathing apparatus and a much improved face.

The third case I wish to call attention to is one of large ears, which in the newspaper cartoons are often called "yellow kids." An elliptical piece of skin over the mastoid back of the auricle was removed, and then a portion of the auricular cartilage was removed to reduce the size of the auricle. The cartilage of the auricle was then sutured into position and the skin border sutured, thus greatly reducing the size of the ears. Whereas before the operation the auricle stood 23 mm. from the head, after operation they were 8 mm. from the head.

In several such cases I have obtained similar happy results.

Dr. D. A. K. Steele:—It is now about twenty-eight years since I took my first lessons in plastic surgery under Dr. Roberts of Philadelphia. His method was one of the first I followed. I am glad to see that Dr. Roberts has limited his technic to the fixed and permanent methods of modern surgery, that is, repair from the patient's own tissues, or autoplasty, where in some cases it may be necessary to use bone chips, and that he does not mention heteroplasty, which is the method so commonly in use by beauty doctors, whereby the injections of paraffine temporarily restore the conformation of the deformed part, but will in a little while exert an exceedingly deleterious effect on the soft tissues. They have resulted in the development of malignant disease; nor does he mention the mechanical means in heteroplasty that are used by surgeons, the introduction of wire frame work left in temporarily, and in some cases permanently, or the method of introducing bones of birds or animals. I have used sometimes osseous tissue or structure, in one case a sparrow's thigh bone being used to form a bridge for the nose. It answered very well. I have used, as many surgeons have, small gold plates, but the method Dr. Roberts recommends, of limiting ourselves to the material from the patient's own body gives the best results. We have learned from Dr. Roberts, and also the lamented Senn, and our President, the necessity of a free incision.

I was particularly interested in the method Dr. Roberts described for the formation of a new ear. In former times we had to employ artificial material very much in the same manner, perhaps, that was used in one of the side shows at the World's Fair, the Horned Man he was called, with a very fierce face and kinky long hair. He had a pair of horns that resembled small prongs of deer's horns, and careful inspection did not reveal the origin of the horns, and it was not until some years ago that I found out it was a case of real heteroplasty. That fellow had been hired to have an operation done. An incision was made over the vertex from one ear to the other, and a silver plate was introduced under the scalp about five inches long, in which there was a female screw, and then in the deer's horn the male screw was inserted. When it was entirely healed a minute puncture was made for the projecting male screw, and no one could discover that the horns had not actually grown in that place. Some such method I thought might be used in the case of the ear. (Laughter.)

DR. TRUMAN W. BROPHY: I have long been familiar with the excellent work done by Dr. Roberts, and it is certainly very gratifying to feel that he is further developing it.

You may search the works of surgery the last twenty-five years and you will find no marked improvement in the operations under discussion over the methods employed fifty years ago. We find to-day men who are improving old methods and devising new means of accomplishing work far better than in the past.

I was very much interested in the paper presented by Dr. Roberts and his explanation of his methods. He has shown some very interesting, and I may say, remarkable cases. The case which he presented of hare-lip in the median line, is unusual. Only one such case has come into my own practice, and one I have

observed in the practice of Dr. Gilmer of this city. The literature, I believe, shows three cases of the kind.

The plan of lifting up the tissues, as shown in the illustration, and producing a lip, I regard as something new, and an improvement over the old plan.

Just recently I had occasion to operate on a patient for whom the surgeon had removed the pre-maxillary bones that extended out beyond the nose. The surgeon also removed the central part of the lip. Adhesion of the drawn-in lip to the cut-off end of the vomer followed, and it resulted in drawing the upper lip in to a very remarkable degree.

To correct the deformity, I divided the central part of the upper lip, removed a "V" shaped piece from the lower lip, and transplanted it into the upper lip. This restored a very presentable appearance.

I have noticed in the photographs Dr. Roberts has passed around, a device for the purpose of bringing together a divided palate, and I might state that about twelve or fourteen years ago I made use of a similar plan, but I finally abandoned it though I think it will work very well in some older cases where it is inexpedient to bring together the separated bones by immediate union.

To show what may be done by intra-oral surgery, I brought with me a photograph of a boy who had leontiasis. This boy was greatly deformed. He came to me five years ago, and these photographs were made only last week, showing that there has been no recurrence of the growth. I might state that this operation was made within the mouth, and I do believe that modern surgery must depart from the old methods of making so many incisions externally for the purpose of operating within the mouth. With suitable instruments the surgeon may do a great many of these operations by removing sections of the bone and taking out diseased tissues without making scar tissue, which is a deformity.

I am especially gratified that Dr. Roberts has come to Chicago and I hope he will come frequently.

DR. JOHN P. LORD, Omaha: I thank you for calling upon me, but I do not know that I can make any contribution to the discussion. Perhaps I could not do better than heartily endorse what Dr. Roberts has said in regard to the value of the step method in these procedures. I also wish to emphasize, because it has been in the line of my experience, the great value of extensive incisions with a certain boldness of execution and thus avoid the scant thin flaps and the sparse results that are so common in this form of surgery, especially the upper lip.

Those who have discussed the papers have recited cases. I want to call attention to a very special case which I had last winter, in which an Indian put a shot gun under his chin, and discharged it with suicidal intent. It carried off his lower jaw, left two molar teeth on one side, three on the other, three on one upper jaw and four on the other, two of which, however, had to be removed. The nose was entirely carried away, and yet there was not so much tissue lost by this extensive gun-shot wound as one would suppose would be the case. The appearance of the man as he walked in, with his tongue on his neck, the loose tissues hanging downward, was very grotesque. I was nonplussed for the time. I did try to cleanse the parts, and within a few days I began very extensive repairing of the parts. The mouth was more difficult than anything else. It became necessary to furnish a frame-work to support the prominence of the cheek, and the nose as well. Following the recommendation which I first saw presented by Dr. Allen of Indianapolis of making a silver frame-work for the nose, it was constructed with a longer flange on either side to rest on the prominence of the malar bones. The superior maxillary bones were mostly absent so that the lateral flanges of the metal framework had to be very long in order to fasten them in the neighborhood of the malar bones on either side. This was introduced, and is being worn to-day. It was somewhat disappointing on account of a disposition to fall down on one side. It held fairly well above because the tissues were loosened along the forehead, and the plate ran up onto the forehead, and small screws were introduced to hold this in place. After repeated procedures we had

a fairly good breathing apparatus. To hold up the lips we had constructed bridge-work to fasten onto the molars so as to give him the semblance of a normal mouth. Only the upper ones were successful. The Indian promised to come back for the completion of this work, but as yet he has not appeared. I hope to present him to the surgical world some day if he gives me an opportunity.

Dr. L. Schooler, Des Moines:—I listened with pleasure to the paper. I think some of the unsightly burns that occur on the face, and look as if they were almost irreparable, can be remedied. I have had considerable experience in operations of that kind. I have had good results by being guided by the parent whom the child most resembles. The results seem to be better when the child attains adult age. Of course, it is necessary to determine that the blood and nervous supply is sufficient for the nutrition of the tissue. One must be careful about asepsis to get good results.

DR. CHARLES M. ROBERTSON: There is one form of nasal deformity which is prevalent, and which no one has touched upon. It is the case in which the septum of the nose has disappeared, and the facial bones have collapsed. It gives us a dish-shaped nose, with an opening in the presenting surface. In order to close the opening it is necessary not only to close up the nose, but to form a mucous membrane in the nostril. This is done by taking flaps from the side in this manner, and turning the skin surface in. If the side bones are not too much destroyed by the ulcerative process we can chip off a piece of the superior maxilla, bring it into the center, wiring it to make a new bridge. Then we slide up soft tissue until we get a pretty fair profile, and sew up the skin on the outside with fine silk sutures. I have had three or four cases of this kind, and have succeeded in getting a nose that looks very decent.

There is another kind of nose that Dr. Ballenger spoke of, in which the patient must have his nose built up, and at the same time have his nostrils opened by plastic operation, viz., in cases where the septum of the nose has been fractured, stuffing up the nose by what we call a wrinkling of the septum. In these cases the nose is cut on the dorsum, and the skin dissected for a considerable distance. Then the tissue under the skin is separated from the bony part of the nose, and the septum is exposed outside and above the mucous membrane. The next step is to separate the mucous membrane from the septum deep down into the nostril avoiding entering the nasal chambers proper. Then the false articulation is severed by shears under the mucous membrane. After that is cut we have our quadrangular cartilage separated from the bony plate of the septum outside of the mucous membrane. Then we go deep into the nose with a wire suture, through the quadrangular cartilage by wire stitch and carrying it out to the spinal process of the frontal bone, where it is anchored through the plates. This tissue is then elevated into place. After this is done the tissue is slid in from the side to fill up the contour and the external wound sewed up with a fine silk suture.

A "V" can easily be taken out of the nose to raise the tip, but the thing to be done is to keep the sutures external to the mucous membrane, so that the sutures do not get infected from the inner surface of the nose. In doing this we have the sutures in the septum buried.

Dr. E. F. Snydacker:—There was one thing Dr. Roberts just touched on, and that was the difficulty of supplying large defects where we need large quantities of skin. I devised an operation several years ago which has rendered me good service. Instead of doing the old Italian operation I cut a skin flap from the neck; beginning below the angle of the jaw, following the course largely of the sterno-cleido-mastoid muscle. I cut it so that I will have plenty of skin. If I wish to repair both eye-lids I split my flap. I then turn the flap up, being careful not to put any tension on the pedicle. I sew the flap in place, and leave it in say for a week or ten days. Then if I have taken a great deal of skin I replace the skin in the neck and suture it back in the neck. In this way I have

employed skin to supply all defects. The skin is much more plastic. The heavy skin of the face is not adapted to eye-lids, and I have all the skin I want. We can cut these flaps as large as we wish. This is only for severe injuries, where we have large defects, where scars are adherent to the bone, and we cannot use other skin.

DR. ROBERTS (in closing the discussion) said: I am very much obliged for these suggestions. It seems to me it is pretty late and I would better go home. I am very much obliged to Dr. Brophy for the good things he has said, for I know whatever he says carries great weight. We need to get the dentists to tell the oral surgeons what to do.

Regular Meeting Nov. 23, 1910

A regular meeting of the Chicago Medical Society was held Nov. 23, 1910. The president of the society, Dr. Alex. H. Ferguson, occupied the chair. Dr. Jacob Frank read a paper on "Liver Incision: A New Method (Illustrated)." Dr. Alex. C. Wiener read a paper on "Non-Malignant Tumors of the Colon."

Regular Meeting, Nov. 30, 1910

A regular meeting of the Chicago Medical Society was held Nov. 30, 1910. Dr. Alex. H. Ferguson, president of the society, occupied the chair. Dr. Paul Gronnerud read a paper on "Appendicitis Pictures." Dr. A. Zimmerman read a paper on "Cases of Intestinal Obstruction and the Lessons Derived Therefrom." Dr. Aime Paul Heineck read a paper on "The Modern Operative Treatment of Varicocele of the Spermatic Cord."

DISCUSSION ON THE PAPER OF DR. ZIMMERMAN

Dr. Emil Ries:—I will take up the pertinent points as they occurred to me in the report. First of all: Mark how little clearness there was about the pathologic condition. In the first case there was a mass of intestinal coils all adherent; it was not clear to what extent; it was not clear where it was. The doctor made a colostomy below and that seemed to give relief, although the obstruction was above.

In another case there was an obstruction of the bowel; not known why. There was an adhesion; not definitely known where. In the third case there was a ring of unknown nature under which coils of the intestines had slipped and become incarcerated. Where that was and what caused the ring was not known.

Understand me: I do not say this in the spirit of carping criticism, but to emphasize to you that the doctor showed his experience and his wisdom in not investigating thoroughly just to perfect his anatomic diagnosis. A man who spends half an hour examining just what anatomic region was involved, just what caused the ring and why would have had a fine specimen—at post mortem. The doctor showed his knowledge of these conditions when he did not waste time in unprofitable exploration. He did the first thing he could do, and he did it quickly and got out of the abdomen.

That is one of the greatest lessons to be learned. It does not do to work around half an hour or an hour in an abdomen just to have a perfect diagnosis. Do what must be done quickly and get out again. That has been urged for the first days of intestinal obstruction, but it is even more important and more applicable in the late stages.

The doctor spoke about the anesthetic. For some time we have heard that one does not need a general anesthetic, that a little local anesthetic just for cutting through the abdominal wall is all that is necessary, that the bowel does not feel anything, that you can handle it, feel it, stitch it and pull it without pain to the patient. No such thing! A man with an obstruction, such as the doctor has mentioned, is not in a comfortable condition, and he is not going to be patient. You work with a local anesthetic, where he knows everything that is being done, and you are going to have trouble. When you lift up the abdominal wall it will

be decidedly painful. When you begin to work on the intestines and have to pull on the mesentery it will be painful, so I would not advise anyone to work under a local anesthetic. Gas is excellent for these cases, because it does not produce nausea, because it does not favor vomiting, and the danger from having to institute artificial respiration is small.

I like the treatment the doctor gave the doubtful coil. The mode of operation which places part of the intestine outside and leaves it there for an emergency is not so pretty as where you do a laparotomy, do all the work inside, close up your patient and discharge him in a week; but it is much better to have a patient have three or four operations, even if he has to be in the hospital two or three months, than to do a quick operation with a quick death following.

There are many things which come to my mind in the discussion of this subject. When we have a case of band without perforation we can give a most favorable prognosis; but when you find a band don't jump to the conclusion that it is the only band. Often there is another one. As soon as I see one band I immediately hunt for the other one. Here, again, experience has to be your teacher. It is all right to look for the other band, but don't look too long. You had better look much than not enough, to be sure, but you must find the right medium. It is annoying to find the band causing the obstruction, to relieve it, and then to have the second band cause another obstruction as soon as the first one is out of the way. In the same way mesosigmoiditis is liable to cause trouble after you have relieved a band.

I believe that the four cases the doctor has described prove that his experience is far wider than these four cases. Anyone having these four obscure cases for his first would have a much higher mortality than 25 per cent., and he deserves a great deal of compliment for his excellent results.

Dr. A. J. Ochsner:—I believe the description given of these four cases is valuable to everyone who practices medicine, because these reports impress one with the fact that even apparently hopeless cases are worth an effort. There are a number of features which are especially interesting; for instance, the advice against eventration. Whoever has seen many operations for intestinal obstruction knows how the intestines try to get out and how they try to stay out, and Dr. Zimmerman has wisely said that next to resection of the intestines eventration is the most dangerous to the life of the patient.

In order to prevent eventration I have, of late, been using the Monk's glass tube. A glass tube about as large as the thumb and about 2½ feet long with blunt ends, affixed to a large rubber tube, is used for the purpose of emptying the distended intestines of their contents. After this is accomplished the tube is withdrawn and the opening in the bowel is closed and the infectious material washed out. If this decomposing matter is left in the intestine the patient will usually die within thirty-six hours. It is especially useful where the obstruction is not of the colon. I believe where there is obstruction in the colon the rule should be to make a colostomy and empty the intestines in that way and not attempt to empty them through a tube. I have foolishly attempted that, contrary to better judgment, and I shall in the future follow the old rule of making a colostomy in these cases.

Where the obstruction is above the colon, where you have simply a distention of the small intestines, or particularly a portion of the small intestines, there the use of the Monk's glass tube is of immense value, but the method of its use should be borne in mind. To introduce it one simply empties a piece of the intestines and has it held by one hand of an assistant on either side of the proposed opening, then place a circular suture around a space, them make a longitudinal incision long enough to put it in, then release the hold and immediately the gas and fecal matter in this portion of the intestines will go out; but the intestines immediately fall over the end of the tube and if you try to shove the tube into the intestines you will fail, but if you hold the tube quietly and double the intestines over it as you would draw a glove on your finger, you can thread it to the transverse mesacolon, and in that way have all the contents evacuated. Then

turn it downward toward the obstruction (taking for granted that the obstruction is in the small intestines) and empty that part. After you have evacuated all of it, fill the intestines with normal salt solution at 105 F. and your patient will be stimulated by the heat, which has a tonic action, and the remaining portion of the intestines is emptied. This can be done in a very few moments.

Dr. Zimmerman has wisely impressed on you the fact that you must not manipulate tissues too much. By using Monk's tube in this manner you clean the intestines thoroughly, and when the obstruction has been relieved there is not a lot of septic material to pass through the remainder of the intestines, and we have the advantage that eventration is not needed and your patient is relieved of the bad effects of having the decomposing material pass through the other portion of the intestines. The cleansing of the intestines in this manner is much to be preferred to making an enterostomy in cases of the small intestines.

The fact that we cannot lay down any definite rules for operation in these cases should be emphasized. We follow the fundamental principles that Dr. Zimmerman has named (which I will not repeat), and everyone who has encountered these cases will confirm every word that he has said. In making an enterostomy I think the plan of using a button is not, ordinarily, to be commended. I have used it many times until Moynihan's method of anastomosis was introduced because of the rapidity with which it could be done, but I had some worry with a number of my cases and in two cases (the last two) in which I used it I had calamities, and have since used the forceps for an enterostomy.

In cases where you are contemplating an enterostomy it is well to choose a point above the possible point of the formation of a thrombosis. In the last case which Dr. Zimmerman mentioned, where he left the intestine in the wound, had he reasoned it out so as to think it necessary to make an enterostomy in order to do the operation, the choice of location would have been difficult—a point at which he could have been certain that there would be no thrombosis of the vessels during or immediately after the operation with consequent gangrene—so this was much the better plan, even if he had been compelled later on to overcome the obstruction by making an incision.

The old rule which Dr. Zimmerman has mentioned is still a good one—to find out what you are about, find out the location of the obstruction by determining the end of the distended or the end of the contracted bowel, and then the point which Dr. Ries has mentioned should, I believe, be emphasized over and over again, that it does not make any great amount of difference to the patient exactly what the pathologic diagnosis is so long as the patient gets well. So long as you relieve the patient it does not make any particular difference whether the obstruction is 4 or 16 inches from the ileocecal valve. The most important thing to the patient is that you do not kill him in making your diagnosis—in order that your report may be absolutely exact to the minutest detail.

Dr. Carl Beck:—No doubt very few disagree with the opinion expressed by Dr. Zimmerman that prompt and effective surgery should be done in cases of acute obstruction. For chronic, of course, these rules do not apply quite so closely. In the acute cases it is absolutely essential that we do as little as necessary to get through quickly and establish a passage.

There are many interesting points about his cases, and every one of them struck home with all those who work in this line. We have all had our experiences doing four, six and eight operations on the same patient to close intestinal fistulæ which result after each operation, and it does not make much difference, if the patient can stand it, so that in the end we have restored them to perfect health.

Some years ago I presented in this society a case on whom I had done eight laparotomies for such a fistula. I mention this case because it had some important features. There was a Murphy button retained in the patient for thirteen years, which did no harm whatsoever. The pictures which I have recently taken show the button still in the same place. A sidetracking operation to restore the bowel was done twice. We finally succeeded in restoring the track of the bowel.

There was a side-track of some 12 inches on one side and 4 inches entirely cut off from the general track. The mucosa of the bowel was prolapsed, and at first had a very peculiar discharge. Sometimes there were colon bacilli and sometimes there were none, showing that there was sometimes transmigration of the colon bacillus and sometimes there was not. The most interesting fact, however, was the button lying there all that time, causing no symptoms. I think that this case proves that the retention of the button does not always do harm, although now, having such excellent sutures, we do not have to use it quite so often.

The temporary exposure of a part of the bowel for the time being to watch whether it will be restored to function or not is also an interesting point. In the case Dr. Zimmerman mentioned, I believe he showed wisdom in leaving it outside, because one does not always know how far the gangrene extends. You cannot say just where it will set in. The immediate union of two such places might be followed by fistula after resection. I have had cases in which life of the bowel was not restored, such a case where the sigmoid was so distended that when I opened the abdomen it appeared like a gangrenous cyst; later I saw that it was part of the bowel. The gangrene extended clear down to the mesentery. The patient lived and with the exposed bowel discharged the gangrenous parts, but, unfortunately, septicemia set in. Had the patient lived it would have been interesting to watch the results.

Dr. Fenton B. Turck:—One interesting point occurred to me in this discussion, which is an important item in every case of obstruction which I have seen in the last fifteen years; that is, the increase in virulence of the microorganisms above the point of obstruction. The *Bacillus coli*, which under normal conditions produce no bacilli under conditions present in obstruction, immediately assume a greater virulence, as is shown by intraperitoneal injection of the cultures in rats. The *B. coli* taken from the normal individual and injected into rats show no effect, but taken from the individual who has an obstruction and injected into a rat, the rat dies within nine hours, so it will be distinctly seen that we are dealing with an increased virulence of the *B. coli*.

The idea of draining which Dr. Ochsner mentioned is particularly valuable because of this fact, and the preliminary operation, enterostomy, is a life-saving procedure. If we allow the toxic material to go on down the alimentary tract there would be more absorption of the toxic substances and our patients would not do so well.

May we not hope that in the future where we have indications of obstruction or increased virulence of the *B. coli* we will at once give it attention? I would suggest the ingestion of liquid vaselin after operation, also greater care in feeding, allowing no proteins. I feed 2 or 3 ounces of liquid vaselin three or four times a day, and it inhibits the growth of the microorganims and prevents the increased virulence, because the colon bacilli develop in the partly digested food material and the liquid vaselin prevents the bacilli from taking up the nutritive substance that develops virulency. It stimulates peristalsis and is very good in these cases, because it supplies a protection to the entire mucous membrane. Then if you feed your patients on a starch diet until all danger is past you will have much greater success with this class of cases.

Dr. E. J. Senn:—I reported a series of five or six cases of intestinal obstruction some years ago, all acute. In each I did a simple enterostomy and all recovered. They were not selected cases. I just mention this fact to-night because it rather corroborates the bacteriologic studies of Dr. Turck. I should like to ask Dr. Zimmerman whether, in his opinion, three of these cases would not have recovered had he done an enterostomy. The consensus of opinion has been to do an enterostomy in cases in which the patient is moribund or in a weakened condition, because you do little mutilation and the patient readily stands the operation. Dr. Zimmerman may have made the patient's life much more certain in each of these cases by doing as he did, but I should like to have his opinion as to whether or not he thinks they would have recovered had he done an enterostomy.

THE MODERN OPERATIVE TREATMENT OF VARICOCELE OF THE SPERMATIC CORD

AIME PAUL HEINECK, M.D.

DISCUSSION

Dr. Carl Beck:—The varicocele is a pathologic condition with which we have to deal very often. It is an important subject, and it would require a great deal of discussion to go into the different points which the doctor has not read because of lack of time. He has left out entirely the pathology, symptomatology, etc., but has gone very nicely over every point of indication and the technic of operation, even though he had to do so hurriedly in order to reach the description of his own method.

From what I see the method is a combination of a method used by the French, resection of the scrotum and a resection of a part of the veins.

I may say that I have used Narath's method, and it has appealed to me because I could avoid the lumpy condition of union of the resected vessels which resulted when I used silk. I have been somewhat unfortunate in my cases since quite a number suppurated, even with catgut and strict asepsis.

I think the doctor's suggestion a good one. It appears from the pictures to be a formidable operation, but I think it is simple and the results would be very good. He may be able after he has had a large number of cases to report what the results are. For the present I think I shall adhere to excision of the vessels only.

One pathologic point which the doctor mentioned: there has been for a long time a discussion of the pathologic association of varicocele and tumor of the kidney. I have paid attention to this and have not been able to detect it. I have looked over the literature of the subject and have found it referred to as a symptom of tumor of the kidney present in a limited number of observations.

Dr. William Fuller:—Varicocele is a condition offering practically no difficulties in its diagnosis and presents as few obstacles to its successful cure. Varicocele of the pampiniform plexus of veins occurs more frequently on the left than the right side; is a condition, as Dr. Heineck has well said, calling under some circumstances for methods of treatment less radical than others.

Varicocele is a lesion so simple and so manageable that one might, on first thought, see little need for further discussing it. But I am sure that the subject as it has been worked up by Dr. Heineck will prove of use and interest to those who desire a comprehensive understanding of it. Causes of dilatation in veins is primarily due to increase in intravenous pressure and increase in the volume of blood occasioned by some obstruction of greater or lesser degree to the return blood currents. This, as has been many times shown, is due to numerous factors: undue length of veins, lack of circumferential support, a better example of which nowhere exists than in the scrotum. The dependent position, course and freedom from valves, as pointed out by Brinton and others, together with the peculiar manner in which some veins empty themselves or the angles at which they join other veins, explain satisfactorily the etiology of this pathologic condition.

The pregnant state affords indisputable evidence of the close relation of pressure to dilatation of a venous trunk. Pregnancy frequently exerts such pressure on the return venous blood from the lower portion of the body that varices occur to a very marked degree. But even better proof of this correlation is the immediate disappearance of these larger and distended veins after the interruption of pregnancy. Congenital weakness or abnormality in venous walls and coats may contribute to their future distensibility and without the mechanical features concerned in most cases, produce typical varicose veins.

In all that I can now recall on this subject nothing suggesting a relation between the redundant scrotum and varicocele has ever been mentioned. Such a relation is barely possible. A redundant scrotum is frequently seen without varicocele and varicocele exists without an elongated or overstretched scrotum.

Scrotectomy, therefore, is a needless and unwarranted step in the treatment of varicocele.

An incision directly over the varicocele 1 inch long—2 if need be—with scrotal and cord tissues held between the thumb and fingers will cause the spermatic veins, when reached, to "elbow" their way into the incision. Double ligature is then thrown around the veins an inch or more apart, depending on the degree of shortening required in the cord. This procedure can be done in five minutes, with local anesthesia or gas as desired; it is bloodless, attended by no after discomfort, and will not fail to effect a cure in practically all instances. The scar is not visible after a few weeks, the scrotum is not disfigured and a suspensory bandage is rarely ever needed afterward.

Dr. F. A. Leusman:—What with the lateness of the hour as well as the length of time it would take Dr. Heineck to read his paper, we have been able to get but a few excerpts. When, however, you will read the paper as it will appear in THE JOURNAL I believe you will agree with me that this production is one of the best monographs written on the subject for the last twenty years.

There are a few points which I should like to enlarge on. First, as to the place. The operation can be done at the office with a local anesthetic, single handed. The hospital with numerous assistants, of course, is more comfortable.

The choicé of the operation is a resection of the veins at a point a little below the external abdominal ring. Here, surgically speaking, we have but two structures to cut—the skin and the spermatic fascia. The diseased veins, usually the anterior ones, are then double ligatured enclosing the spermatic artery, care being taken when approximating the stumps to suspend the testis at the proper height. If there is present an associated hydrocele, fibroma, lipoma, tubercular epididymis, etc., it is most easily disposed of according to the needs of the occasion. The only thing that needs sewing is the skin. Resection of the scrotum is unnecessary unless the scrotum is pathologic, when Dr. Heineck's suggestions as to method will prove of decided value.

There are some dangers to the operation apparently. I know of a case of gangrene of the testicle following a varicocele operation performed by one of our so-called master surgeons. The reason for this unfortunate occurrence is not known to me.

The blood supply to the testis is derived from the spermatic, deferential and cremasteric arteries. In doing the operation you have no time to dig out the spermatic artery. Therefore, this artery is sacrificed and cut off with the varicose veins. If you save the deferential and cremasteric arteries and the epididymal veins, afferent and efferent circulation will prove ample, and if, in addition, the genital nerve, lymphatics and sympathetic nerves are respected, the result will be satisfactory. It will prove good policy, however, to tell your patient that in a number of cases of varicocele due to celibacy the testis of the affected side is already partially atrophied. Though an accompanying hydrocele led the patient to believe that his left testicle was unusually well developed, the removal of the veins and the removal of the hydrocele revealed the true condition, and unless the patient was forewarned, he blames the operator most unjustly for the atrophy of his testis. As to infection, I was fortunate so far in escaping occurrences of that kind, nor can I see any special danger from that source.

Then as to the after-effects, aside from gangrene, infection and testicular atrophy, I will emphasize the not altogether so very rare appearance of secondary hydrocele.

With regard to the etiology of varicocele, I believe I can say what Dr. Heineck probably knows, but did not wish to voice. Varicocele is a disease incidental to civilization, and the limitations it imposes on gratification of even legitimate, natural procreative desire. The desire for food (which includes shelter) and the desire for reproduction are the fundamental human motives. Generally speaking, science subserves the food problem, the sexual problem underlies most forms of art, as music, painting, etc. These problems and their emblems frequently intertwine.

Sexual desire colossal in its vehemence at times symbolizes creative art and its wonders; hence we find phallus worship to be the oldest of all religions. Unbeknown to many, the model of the modern church spire symbolizes the phallus of the ancient worship of creation, the cross symbolizes sexual congress. It is utterly unreasonable to make the statement and impossible to sustain the theory that man, mature man, if normal in his anatomy and physiology, can be continent, sexually continent, for indefinite periods of time, or his life, without falling below his own best possible standard. The sexual function is fundamental and cannot be disregarded as an act of (impossible) volition. Man or animal either copulates or masturbates, at intervals. The cause of varicocele is ungratified or improperly gratified sexual desire. There is no other cause or causes.

Dr. C. C. Rogers:—I have had the pleasure of reading Dr. Heineck's very exhaustive paper in full, and I regret that it could not have been presented in its entirety to-night. One point which appeals to me as very important has been omitted, and the only one which I care to enlarge on: whether simple dilatation of the spermatic vein will produce the pain which many patients suffer. Many of the patients have small varicocele, or they have read the literature distributed by quacks, imagine they have the symptoms described and seek medical aid for their relief. Some have neuralgia of the testicle which is worthy of our consideration. Because a patient with a varicocele has pain in the testicle one must not immediately jump to the conclusion that the varicocele is the cause of all the pain. I have seen many young men with pain in the testicle and varicocele go through an operation and to the surprise of themselves and the surgeon have the same pain as they had before and practically just as much of it. Examining further the testicle was found to be nodular, a subcutaneous tubercular test was positive, and tubercular bacilli found in the testicle after its removal. I have seen three cases treated for varicocle that were tuberculosis of the testicle. Because a patient has enlargement of the vessel or pain, we cannot jump to the conclusion that they have varicocele and nothing else. No operator should discharge his patient without examining further to see whether there is something else causing the pain. If we find nodules in the vessel we should be careful, if we operate, to expose it and examine it to see whether it is diseased, and we should elicit whether the patient has tuberculosis. These examinations should be made before we subject them to the primary operation. Sometimes we do not, in what we consider minor operations, examine our patients enough to know whether the pain is caused by the varicocele or some disease of the testicle.

Dr. Aime Paul Heineck, closing the discussion: The advantages of the technic for scrotectomy which we practice and which we recommend are:

1. Rapidity and simplicity of execution.
2. Adaptability to the cure of relaxed pendulous scrotum, irrespective of cause.
3. No special instrument is required. No clamps are used.
4. Effective control of operative hemorrhage.
5. Effective prevention of post-operative hemorrhage.
6. Safety and efficacy. As remarked by E. Wyllis Andrews (whose operation bears some resemblance to ours), if the veins of the scrotum are dilated, scrotectomy aids in correcting this condition by suppressing the lower loops of the dilated scrotal veins.

It is my opinion that in idiopathic varicocele the best results are obtained by the performance of the double operation: resection of the lower portion of the varicosed veins and amputation of the relaxed and pendulous scrotum. In cases complicated either by an inguinal hernia, or by an encysted hydrocele of the cord, or by a congenital hydrocele, I follow Chavrier's suggestion[1] of ligating the spermatic veins close to the deep or internal abdominal ring. Often here, one can place the ligature around the main trunk of the spermatic veins. The advantage of this high ligation is that it enables one to avoid the inclusion in the

1. Gazette des Hôpitaux, 1910, 83 Ième année, p. 601.

ligature of the spermatic artery. The occlusion and resection of the spermatic artery influences unfavorably the nutrition of the testis. Operations for the removal of the internal and of the external saphenous veins have demonstrated that the partial resection of venous channels is innocuous. After resection of the spermatic veins, the collateral circulation is taken up by the deferential, the cremasteric and the scrotal veins. Bennet's operation: the complete division of the whole spermatic cord with the exception of the vas deferens and its vessels, we consider dangerously radical and we counsel its non-practice. Narath's operation should not be performed, if the varicocele be not coexistent with a hernia. It needlessly weakens the abdominal wall. It is well, that the type of varicocele, symptomatic or idiopathic be determined in each case. Symptomatic varicoceles are usually painless and do not disappear upon assumption of the recumbent posture. Varicocele of the spermatic cord can co-exist with disease of the testis and as Dr. Rogers has so well stated, the symptoms of the testicular affection should not be attributed to the varicocele, and both existing conditions should receive appropriate treatment. It is needless to say, that there are many facts that tend to confirm Dr. Leusman's statements concerning the etiology of varicocele.

Regular Meeting, Dec. 7, 1910

A regular meeting of the Chicago Medical Society was held Dec. 7, 1910. Dr. Alex. H. Ferguson, president of the society, occupied the chair. Dr. T. D. Crothers, Hartford, Conn., read a paper (by invitation) on "Home and Office Treatment of Inebriety and Alcoholism." Dr. Winfield S. Hall read a paper on "Some Recent Advances in Our Knowledge of Nutrition." Dr. Charles B. Reed read a paper on "The Indications and Technic for Artificial Dilatation of the Os at or near Term."

HOME AND OFFICE TREATMENT OF INEBRIETY AND ALCOHOLISM

T. D. CROTHERS, M.D.

DISCUSSION

Dr. G. Frank Lydston:—One of the points that impressed me very much in Dr. Crothers' address was the stress he laid on the experiments made on certain students to ascertain the effect of alcohol. I think we all have noticed a tendency in late years to condemn the use of alcohol in therapeutics, and such experiments as he cites here are about as logical as most experiments are on which such opposition is based. The deductions made from experiments on normal animals and human beings are about as useless as it is possible for them to be, and I think there will be a reaction before long from the illogical deductions now being drawn.

For all that has been said to the contrary, I believe that alcohol has a distinct range of value, but in courtesy to Dr. Crothers I wish to say this somewhat apologetically. I wish the doctor had given us something of the comparative statistics of inebriety.

So far as the disease theory of inebriety is concerned, I think that has reached a point where it may be said to be firmly established in the mind medical. I don't think it necessary to emphasize the fact that the great majority of physicians regard and treat it as a disease. We often hear the argument that the inebriate is a criminal—that he was a normal human being, that he wilfully brought about his condition, therefore he is responsible for it and should be held accountable. Sufficient account is not taken of the fact that no individual can indulge in alcohol for long without becoming diseased, it makes no difference whether he was originally normal or not. When we are confronted with an inebriate, we are face to face with a diseased individual; whether his disease was brought about by his own acts or not makes little difference in the course we should pursue in the treatment.

I wish the doctor had laid a little more stress on the physical side of the inebriate and particularly the physical deficiencies that underlie the weak will.

We often make the mistake of failing to take into consideration the fact that often the individual is not known to have a weak will until he has shown it in this way.

I think we have often been remiss because we have prescribed alcohol without carefully discriminating between those who are feeble willed and those who are able to withstand its temptations. I recall a case of a man who had not touched a drop of alcoholic liquor of any sort up to the age of 38. He was normal in most respects but had had in young manhood a localised tuberculosis and a head injury. At the time of which I speak he had been operated on for appendicitis and during convalescence the surgeon prescribed alcohol and within ninety days that man could not get alcohol enough.

The building up of the physical constitution in chronic inebriety is our chief therapeutic asset. I do not think much of drugs, except for the effect they have on the patient's mind. There is no reason why we should not take advantage of the psychologic element, which the quack is so quick to ferret out, but the building up of the physical man is the real curative factor.

I have a friend who is engaged in slum work and besides many other things, he takes particular interest in alcoholics. Something like eight years ago he volunteered to turn over some inebriety cases to me and he surely did his best to send me the worst cases he could find in the city.

The first one he brought seemed to realize his difficulty and the state he was in pretty clearly. He said he wanted to quit but did not have the will. He was about the toughest looking specimen I had ever seen. I really did not know whether I should be able to do anything with him, but in order to get him into a frame of mind where I could work with him, I told him he was altogether too far gone. I refused to take any interest in him until he was in an antagonistic frame of mind where he was begging me to take him and would do as I ordered. Then I took him out to a farm just outside the city and put him in charge of my overseer. I put him on strychnin for a day or two, then gave him some colored placebo solutions and pills, and kept him at work out of doors constantly from morning until night; telling him when he felt that he was capable of facing the city he could let me know. At the end of ninety days he told me he thought he would like to come back to the city. I gave him a new suit of clothes and a little money to start on and the next time I heard from him he was a temperance worker and afterward I heard that he had become a Methodist preacher.

The second case sent to me was even harder. The first man was about 52 years old. This one was at least 10 years older. I followed the same course and he also followed in the footsteps of the first man, becoming first a temperance lecturer and afterward a preacher—which might be taken as backsliding. These cases are still "cured" after a period of eight years.

This brings me to the point of believing that radical change (the simple life, if you wish to call it so) and constant out door employment is the best possible cure for these patients and I believe that if some wealthy man interested in philanthropy would undertake the establishment of farms on the outskirts of the city where inebriates could be kept for a time and given a chance to work, much good could be done. All drug therapeutic work, whether reputable or not, is based on wrong premises. The essence of our therapy should be outdoor living, free from city influences, and building up the physical constitution so that the will power will be restored. I think if we, as physicians, can interest philanthropists in such a project we will work much good; for work of this sort certainly is far-reaching in effect in a sociologic way.

My idea would be that the farms should not be large, or the patients numerous. The patients should be kept, as I kept these two individuals, constantly busy.

I took these two subjects merely as an experiment, but I do not see why the same results would not be obtained in treating a large number of patients. I believe that the coming treatment is the care of the individual's physique and his constitutional upbuilding as a means of strengthening his will.

As matters now are we are almost helpless in the matter of control of the inebriate. There is not a physician in this city who does not do more or less of this kind of work, and who does not know a large number of inebriates who have been a source of danger to their families and friends. If the physician had recourse to some legal procedure which would place them under arbitrary control, he might effect a cure and restore them to their families as useful citizens. You know that, as matters now stand, if they come to you you can relieve the present emergency, but you have no means of preventing them from returning to the same condition.

Families often appeal to you to save their loved ones. What is needed is some sort of a legal system of control. That is something we should all strive together to bring about; a means whereby a confirmed inebriate may be remanded to some institution and kept there until he is cured. The Washingtonian Home is the worst fake on the face of the earth. They treat the men as criminals instead of diseased human beings and are as far as possible from doing them any good. The institution is merely a safe harbor for "sobering up" and the treatment of delirium tremens.

In the course of my sociologic work I ran across a recent method of handling the inebriety problem in London. When we handle this question we handle many others which are branches of it. A law is in force in London which makes it a criminal offense to sell to a chronic inebriate. This applies not only to the keepers of the low doggery, but to the keepers of high-toned restaurants and the managers of clubs. In a fashionable club if a man is known to be an inebriate he is served only at great risk to the manager. Photographs are obtained of inebriates, and resort keepers are supplied with copies for purposes of identification, and if the keeper of a resort of any kind sells to that individual serious trouble results. There was also a law enacted providing for the punishment of anyone taking a child (particularly a girl child) under 13 years of age into a resort of any kind where liquor is sold. Within a very short time the number of cases in the police courts that were remanded for various offenses after the enactment of this law was reduced enormously. I do not remember the exact figures, but it was something like 75 per cent. less than the ordinary number of cases in the police courts before the law went into effect.

We are lamentably deficient in this country in remedies for this evil and I think something could be done along the lines I have suggested. Certainly the physician should try to do more than to simply sober up drunks. We have not only the fostering of legal measures on our hands, but the responsibility of the education of the public in the inebriety problem.

V. H. Podstata:—There are perhaps three points on which I would be in a position to say a word; about the importance of inebriety and the result of alcoholism on the nervous system: it is beyond question that at least 25 per cent. of the patients admitted to the Dunning Hospital for the Insane come there as a result of drinking. That alone, if there was nothing else to consider would make it quite a problem for every physician, because inebriety must be handled in the beginning if it is to be handled at all.

That inebriety is a disease I do not think there is the slightest doubt. In my opinion the predisposing factor of inebriety is always a condition described by the French as nerve instability. If you will analyze your patients carefully you will see that this is true. It has not started with an impulse to drink, but with a condition of instability that compels the individual to take a stimulant. It is usually liquor first, then morphin and then cocain. It is rarely that this order is varied.

I look on the condition as a disease, always due primarily to nerve instability which requires the attention of the physician and in all too many cases the physician does not carefully study his patient before prescribing.

Dr. Lydston has mentioned one thing which cannot be too strongly emphasized: when we prescribe alcohol we should be very sure of our patient, because the habit of alcohol drinking is often started from receiving remedies containing it.

We many of us see people drink alcohol in fairly large quantities every day who do not show any signs of it. It is a peculiar thing and rather difficult to account for, particularly when we consider the experiments made. I must say that, so far as I know, tests have always resulted about as Dr. Crothers has pointed out, but yet there are these people who take it daily and show none of these results. I have seen them frequently where they show no physical signs whatever, no mental signs and (considering their age) no arteriosclerosis. I do not know how to explain it, but perhaps someone can throw some light on the subject.

As to treatment: I usually have a number of cases in the hospital and I have seen them in various stages from delirium tremens to hundreds of cases of chronic alcoholic intoxication, starting with moral degenération as a result of alcoholism and running down to alcoholic paralysis (which title I use apologetically, not because it is the correct term but because it best describes the condition). When I come to treat them I find it far more difficult than one would be inclined to think. It is comparatively easy to take a man who has been drinking and give him a dose of apomorphin and quiet him; it is excellent, but it is not really treatment. It is also comparatively easy to take large doses of bitter tonics, such as have been mentioned, and certainly there is no doubt but that we can influence the patient to a certain extent with nux, atropin and strychnin, but how long is that going to last? My experience has been that it does not last very long. While I have seen many men leave institutions when they were in good physical health, when they were willing and able to promise anything on earth, I have seen the same men come back again, just as bad and worse in a comparatively short time, so that my view of the situation is rather hopeless—not absolutely so, but not exactly optimistic. I am free to confess that we, as physicians, shall have to deal with patients not only from the purely physical standpoint (because we are really dealing with sick men) but we will have to have some dealing with them from the psychologic standpoint and the sociologic as well.

I do not see why the practitioner should not be thoroughly acquainted with the methods of mentally influencing people, not really practicing mental healing, but in a certain degree I think it is time we got into the homes and dealt with that side of the man. It is really necessary that this should be done. I think there are many places in the course of their treatment when they need words of encouragement and friendship quite as much as anything else. Medicine is necessary, but I believe that without some psychologic influence permanent results cannot be obtained.

I believe that alcoholism is on the increase. The figures show that not only a larger amount per capita is taken but that a larger number of people are being influenced and these facts merit serious consideration.

Dr. Julius Grinker:—I believe we are all grateful to Dr. Crothers for having brought the subject to us as he did, for although alcoholism has been discussed for centuries, it has not always been brought home to us in the best way. I came here with the hope of hearing something new on the home and office treatment of alcoholism and inebriety. Personally I feel somewhat disappointed, though others may not be.

The treatment outlined by Dr. Crothers has been the accepted treatment for years and has failed times innumerable. It constitutes the essence of the so-called "Three Day Cure" and of the Keeley Cure; but most of the patients relapse after such cures.

Before I proceed to state what I think is the best treatment I wish to call attention to a few points in Dr. Crothers' remarks that need correction. He told us of the delirium of language characteristic of cocainism. I feel tolerably certain he was not in earnest about that. If he really was, then he fell into the error of Max Nordau, who could see nothing but evidences of mattoidism and epilepsy in the writings of our most celebrated authors. If Dr. Crothers is correct, then

we must consider the brilliant writers of medical and lay literature—some of whom have been very prolific—as cocain and morphin habitués.

A word about the carrying of fire arms: one who carries a revolver in his pocket may be a person who is afraid of real or imaginary enemies. In a city like Chicago, where hold-ups are of nightly and daily occurrence, many people carry fire arms. Should an individual from Chicago, still carrying his weapon because ignorant of the perfect safety of the streets of Hartford, choose to make a friendly visit at Dr. Crothers' institute, the doctor would immediately suspect him of cocainism before he uttered a word!

The essayist has said nothing on delirium tremens. Not rarely the practitioner is called to a patient supposedly suffering from typhoid fever or pneumonia, but in reality the subject of an attack of delirium tremens. As time does not permit to enter into symptomatology, I will suggest something practical in the way of treatment. In the Cook County Hospital, where we have frequent opportunities of treating cases of delirium tremens, we have found that small doses of morphin sulphate, say one-sixth of a grain every three hours until five or six doses have been taken, will often abort an incipient case of delirium. Needless to state that other treatment and proper feeding are not neglected.

In speaking of the drinking habit as a diseased tendency, a so-called neuropathy, the doctor omitted to state that the inability of certain individuals to taste alcohol without getting intoxicated or even becoming sick, in other words, the intolerance for alcohol in any form, is another expression of the same neuropathic constitution. The fact that certain individuals take to drinking to excess as a fish takes to the water, while others cannot drink at all—not even a drop—would show both types to belong to a common family. Of the interchangeability of alcoholism and teetotalism I can give many illustrations, but one will suffice: I have in mind a friend of mine, a resident of this city, whose father had been a confirmed drunkard all his life, but who himself had inherited a most pronounced intolerance of anything alcoholic and in consequence is a natural-born teetotaller. We shall have no difficulty in finding a similar type of neuropath among our American temperance cranks. The Germans can drink moderate amounts of beer without becoming alcoholics. The normal individual, in my opinion, is neither a drunkard nor one who shows intolerance to even small quantities of alcoholic drinks.

We neurologists have been up against the drink problem for years. We have had patients suffering from all forms of alcoholism, beginning with the alcoholic neurasthenia, down to alcoholic polyneuritis, alcoholic hallucinosis and paranoia. When informed that their symptoms were caused by alcohol and that recurrences are sure to take place if the taking of alcohol is resumed, they invariably swear that not another drop will ever pass their lips again. But no sooner have they turned their backs on the hospital when they relapse into their former habits. What can we do for these unfortunates? Neither quassia nor apomorphin will cure them. They should be detained in some institution for the inebriate during a period of at least six months, should be under constant observation and should receive treatment directed toward strengthening their weakened wills. That treatment will be most effective which reaches the patient's heart and brain. One might call this treatment "moral" treatment, because the patient is to be educated to believe in a better life and that there are higher things in this life than the mere satisfaction of the senses. In such instances the doctor becomes a teacher of ethics. Are we kind to the patient when we take him in for three days, sober him up and then turn him out, leaving him entirely to himself, the worst imaginable company for him? This great city should have a place to which alcoholics could be sent as patients to be treated for their infirmity; under existing conditions he is taken care of only after he has become insane. We are far from a solution of every phase of this question. Although not for a moment underestimating the good to be derived from the immediate symptomatic treatment of acute and chronic alcoholism, we are still looking forward to methods of treatment which shall yield permanent results.

T. D. Crothers (closing the discussion):—I cannot say very much in reply except to confirm the statements made and to say that a larger experience will alter the opinions of many people a great deal.

There is no one line of drugs that is going to restore a drug taker or an alcoholic, but each case is a law unto itself. It is a simple matter to treat a drug taker. It is a large matter to cure, but it is being done. Suggestion, hypnotism and any sort of treatment that restores the disordered brain and gets the patient to think and live better constitutes good treatment.

I feel grateful to the members of this society for the honor of the invitation to address you and thank the gentlemen who have discussed this subject. It is much bigger than anything else before us and another generation or more will discuss it before we can reach any sort of conclusion.

DISCUSSION ON THE PAPER OF DR. HALL.

Dr. Fenton B. Turck: A paper of this kind should not be so hastily gone over. It covers such a vast field that only a master of physiology could condense so much into a little space. Dr. Hall is to be complimented upon the view he has given us of the modern advances in the science of nutrition.

The formation of secretin (a hormone) in the stomach is very important. Secretin is not produced by the mastication of food, but by the products of pepsin digestion in the stomach taking place after the "early digestion" due to psychic secretion. When secretin passes into the circulation it reaches the gastric glands and stimulates them to activity.

The absorption of these products becomes exceedingly essential in the whole process of digestion, and in pathologic conditions are frequently the key to a group of symptoms. While not the subject of this paper—it being so closely related to it—I wish to bring up the point that the food shall be thoroughly and completely digested in the upper alimentary tract and thus leave no residue of albuminous substance to act as toxins and furnish the intestinal flora with nutrient diet.

The last point I wish to mention is the question of low protein diet. I am thoroughly in accord with the conclusions of both Foley and Chittenden, and there is no use denying the brilliant results they obtained, but we also know clinically what an excessive amount of protein will do. Weir Mitchell gives large amounts of protein substances for the purpose of stimulating all the organs of excretion. When we have patients at a low ebb of the vital forces, it may be that we must at times give more proteins than are usually given to stimulate the organs to their work; the liver, the kidneys, and all the organs must be stimulated to do their work just as well as it is possible to make them, and there may be times in our practice when an excessive protein diet is the only means at our command to stimulate these organs of the body. On the other hand, the excessive use of proteins is not only often dangerous because of the extra work thrown upon the liver and kidneys, but the fact that there is a large amount of the protein not absorbed, furnishes a nutrient media in which micro-organisms readily develop. We use bouillon to produce cultures, because it is the richest substance we have to grow micro-organisms and produce their toxins, and we have, therefore, another argument for low proteins, but we cannot make the sweeping statement that the low protein is always best, for it is not quite settled whether man can live his best at such low protein scale. It has been developed that athletes can do their work, but it is not yet established that it is best for all men to live on "threadbare" protein diet.

Regular Meeting, Dec. 14, 1910

A regular meeting of the Chicago Medical Society was held Dec. 14, 1910. In the absence of the president of the society, Dr. John T. Manierre occupied the chair. Dr. J. H. Schroeder, Cincinnati, read a paper (by invitation) on "The Present Status of the Cammidge Reaction." Dr. Edward F. Wells read a paper on "Management of Failure of the Circulatory Balance in Chronic Interstitial

Nephritis." Dr. M. R. Barker read a paper on "Acute Post-Operative Dilatation of the Stomach Following Gastrojejunostomy."

DISCUSSION ON THE PAPER OF DR. SCHROEDER

A. J. Ochsner:—Those of us who have been interested in the Cammidge test are, of course, familiar with what Dr. Schroeder has been doing the last five or six years in this department. My own interest dates back to the beginning of this work by Cammidge because it was started in connection with the work of Mayo Robson, with whose work I have been familiar for many years.

When he first made these observations he communicated the facts to me directly and as my assistant, Dr. John L. Yates (now of Milwaukee) was in England, he went to Leeds and saw Dr. Cammidge make these tests on cases under the care of Mayo Robson and brought over the method.

We were very enthusiastic over the idea of having something that looked like help to make a diagnosis in a condition which at that time was rather difficult. Of course when the condition of the pancreas is so serious that it can be diagnosed by the examination of the feces, when you can make a positive diagnosis, then the case is clear enough so there is no difficulty; but it was in cases in which the question lay between the duodenum, the gall-bladder, the stomach and the pancreas. At that time none of us had so much practical experience with these conditions as we have now after opening the abdomen in many cases and demonstrating the presence of the condition. One examines a patient to-day and tells him positively that he has an ulcer of the duodenum, where five or eight years ago an equally careful examination would have left the surgeon entirely uncertain. Simply from constant repetition we acquire a form of diagnostic skill which means that we are familiar with the condition. At that time we had not had this experience, so we were very much interested in the experiments, and Dr. Yates being a thoroughly trained man from the University of Pennsylvania, Johns Hopkins, and the Wisconsin University, having gone through years of careful laboratory training, seemed to be just the man for the work, so we examined every case in which we were to have an opportunity for manipulation of the pancreas and he made his test and said "this is positive," "that is negative." Then we opened the abdomen for whatever operation we had, stomach, gall-bladder, duodenum, or whatever we were to operate on and examined the pancreas invariably; and this is the conclusion we came to: Dr. Yates found that when Cammidge had a certain condition he could reason from the condition and vary his experiments a little this way or a little that way and could say it is positive, or it is negative, after these slight variations; while if Dr. Yates undertook the same variation it would really mean nothing to him—in other words, Cammidge is a physiologic chemist and so things which indicate that this or that means this or that, mean nothing to a laboratory man who is not an expert in this especial field.

I can readily see how the experiment can be accurate, notwithstanding these facts. One would think that a scientific experiment would be made exactly after a formula, but there is the personal element in it and when a man has the training and skill in that line that Dr. Yates has and cannot accomplish what Cammidge and Dr. Schroeder can it seems to me to be tremendously interesting and worthy of further study by men who are experts in this field; but examinations made by men who had not this training would be useless to consider of diagnostic importance.

What Dr. Schroeder has said of the experiments at Rochester illustrates the same thing. There is no man of my acquaintance whose accuracy of judgment is more sure than that of Wilson. He is a man of extensive qualifications. The picture which presents a certain condition to Pilcher (who is a young man) means that he reads his history and his test-tube together. To Wilson, reading the same test-tube means just exactly what is in that test-tube and nothing more, while with the younger man the whole picture and the history have a bearing.

Now I am sure that with an expert like Dr. Schroeder, or Cammidge, there is the same accuracy in such a test that there is in a mathematical formula, but with those having less skill that is not the case. I have another reason for my belief. There are few surgeons who are so acute in their judgment as Robson and Moynihan of Leeds. I asked these men directly concerning the accuracy of the Cammidge test and they told me they could depend on it. Knowing of the experiments which Dr. Schroeder has made, I am convinced that the same is true of his work.

A. Gehrmann:—I think Dr. Schroeder is deserving of the thanks of the society for the summary he has given us of the value of this test. So far as the reaction is concerned: it seems to me from my experience of several years that the reaction is definite. We have made a sufficient number of them to eliminate the few difficulties which at first presented. The chief one, of course, being the presence of sugar in the urine as shown by using ordinary tests. We first thought it sufficient to try the ordinary tests to pronounce the specimen one satisfactory for use in the experiment, but afterward found that other tests had to be made to find that the specimen would be satisfactory.

Then, having a satisfactory specimen, running it in duplicate and with proper checks in the manner described, the appearance of the crystals at the end of the experiment are certainly very definite. Either the granular material remains or the crystals appear and anyone who has seen them once can be satisfied of their presence or absence.

As in many other tests, so in this one, a single test is too often relied on for a diagnosis. Reaction is reaction and its presence or absence is determined to help us along diagnostic lines. What is particularly needed is more experimentation along the lines of animal work, as Dr. Schroeder has brought out.

So far as its clinical use at present is concerned, it seems to me it is not popular because of the class of conditions in which it is to be used. These are not so frequent and they are a class of cases which very often pass as some ordinary disturbance of the gastro-intestinal tract and proceed without any special investigation, or they are malignant cases dying without accurate diagnosis; and also because of the time-consuming and careful technic that has to be followed in making the test.

The only thing that will lead to a proper placing of the value of the Cammidge reaction will be the careful following of the case by the surgeon, perhaps the presentation of the specimen for careful microscopic or post-mortem examination. The tests should be made by some one who will simply make the test and report his results as negative or positive. In order to be a good test, of good value, we must know first exactly what it means, and second, whether it occurs in these conditions or not.

J. H. Schroeder (closing the discussion):—I am fully conscious of the effect that the personal equation has on the making of this test. I referred to the tests made by Pilcher because they have been published. He was very definite in his tests. The subsequent tests by Wilson were published in August. In the first Pilcher did not know the history or the end and that illustrates the element of personality.

I would disagree with the speaker who said that the work under Wilson was not positive. His findings were very definite. So far as to what you see under the microscope: there is no question about it and no difficulty in carrying on the examination if you follow the directions given by Cammidge and he is very positive in them. You must absolutely follow the technic laid down and then the findings will be positive or negative as the case may be.

DISCUSSION ON THE PAPER OF DR. BARKER

Emil Ries:—This question has always been handled under two headings which demonstrate two theories: post-operative acute dilatation of stomach and arterio-mesenterial occlusion of the duodenum. There are some things to be said in favor of each and a few things which do not agree with either. In favor of the

theory that there is always an obstruction of the lower part of the duodenum by the artery is the fact of the surprising (practically regular) success of the treatment built on this purely mechanical theory. The result of evacuation of the stomach by the tube and the supposed release of the pressure on the duodenum by turning the patient on the stomach seems to speak absolutely in favor of the mechanical obstruction.

Some other points in its favor might be these: the compression of the duodenum is supposed to be brought about by the root of the mesentery. This root is pulled on and put on a stretch by the mass of small intestines falling into the small pelvis and held there by its own weight.

In favor of this hypothesis we might compare for instance conditions in which it is impossible for the small intestine to fall into the pelvis and become confined, to that of patients put to bed for diseases of various kinds, ptomain poisoning, typhoid fever, etc.; now compare with the number of patients who take anesthetics and have this dilatation the untold millions of women who have children and are put to bed for varying periods of time. In the whole history of obstetrics I don't know of a single case of dilatation of the stomach not complicated by sepsis. This would agree well with the mechanical theory, the uterus filling the pelvis for a time at least.

Then it has been claimed that the mechanical theory does not explain all cases because the weight of the small intestines would be insufficient to pull with such an energy as to compress the duodenum. It has been mentioned in this respect that the small intestines after operation would usually have more weight and a greater pull because usually the intestine is emptied before operation and there is no gas left in the small intestine by which it may be borne up.

In this regard it might be interesting to report my own experience because I have for years advocated that no such emptying of the intestines should precede laparotomies. Therefore the patients on whom I operate usually contain the normal amount of feces and gas, nevertheless I have seen post-operative dilatation of the stomach in three cases. One operation was outside the peritoneal cavity (operation for hydronephrosis); the other two were less satisfactory examples because they had operations on the bile tract and this location of the operation favors dilatation and green vomit, etc. This idea of the empty bowel producing the pull on the mesentery cannot be retained.

The idea that there is a mechanical obstruction of the horizontal part of the duodenum cannot possibly prevail in cases where there is an opening from the stomach into the intestines below the point where the mesentery runs across the duodenum. Suppose in the doctor's case there had been a simple mechanical obstruction of the lower duodenum: that would not prevent the stomach from emptying its contents through the gastrojejunostomy opening below that point.

It is interesting that in the doctor's case, as well as in two stomach cases I had, the dilatation did not immediately follow the operation at all. In the doctor's case it was on the tenth day, in one of my cases it was on the eleventh and in the other on the twelfth. In both of my cases, as well as in the doctor's there was an opening below the superior mesenteric artery.

Now how about the theory of acute post-operative dilatation considered as a primary condition—the real condition? If a toxin is produced by the administration of an anesthetic and is the cause of this paralysis of the stomach (which must be at the base of this theory) then it is hard to understand why the toxin should begin to work ten days after the operation when the effect of the chloroform or ether must be absolutely gone. Chloroform and ether, as well, cannot be demonstrated more than three or four days at the outside after the operation even with impaired excretory organs. If such an acute dilatation developed immediately after the operation it would be conceivable that a toxin, a chemical substance, might be the cause of the paresis of the stomach, but how about the cases where there is no question of toxin and no question of anesthesia? There is a case of a nurse who took a quantity of more or less decayed beef and was taken sick immediately afterward. Two cases which I happened to see in the

literature did not follow any disease or any anesthetic. Sometimes the patient is taken in the midst of health: where is the toxin in these cases? There is nothing to show any.

On the other hand take the statement that the stomach walls are paralyzed, therefore give way better and more easily than the opening in the pylorus or the opening by the gastro-jejunostomy: what do we find if we clean out the stomach as soon as the symptoms are clear? Does the paralysis show? No! If we diagnose early and start the treatment, the stomach contracts down and stays down—not always immediately, but in a goodly number immediately. How about that paralysis? How about that toxin?

There is something in that problem that we do not know. It seems such a simple affair and yet there is always some hook or crook which destroys the nicest theory we have been able to spin.

If we go so far as to assume involvement of the vagi, pulling on the vagi which are afterwards easily relieved and released by change of position, then we could prove our assumption by experiments. There has been quite a series of experiments reported in a German journal by Braun and Seidel which I read some time ago and they came to no conclusion whatever. No amount of experimentation with the vagi produced this condition.

There is a nice little problem here which is worthy of careful study and experimentation.

William Harsha:—As Dr. Ries has said, the discussion of this subject is largely academic. The general fact that acute dilatation of the stomach is not limited to post-operative cases has of course been known for a good many years, probably sixty or seventy, but especially for the past forty; and the post-operative variety in the past twenty. The best review of the subject made recently, which I have seen, was Laffer's (of Cleveland) two years ago. In that he reported one case which occurred after confinement. The fact that it occurs where there had been no anesthetic, and that it has occurred after amputation of the hip-joint and various operations not in any way involving the stomach would seem to set at naught a good many of our theories.

I am not sure that the essayist is right in the belief that the consensus of opinion is that it is a gastro-mesenteric ileus. I believe it is not taken to be a mechanical condition by most surgeons. There may be cases of that kind, but it is very difficult to understand how a mechanical occlusion at this point could produce such a rapid and complete obstruction, and such a hypersecretion, with so little pain. It is true most authors speak of pain as one symptom, but we can conceive of no sudden, complete occlusion of the intestinal tract without more pain than most of these cases evidence. They come on rather insidiously, although it may be suddenly.

I have had but one case, not exactly like that of Dr. Barker, inasmuch as there was less secretion following the operation. The operation was done for an umbilical hernia. The intestines were not handled at all and everything seemed to go on all right when very suddenly, at the end of the fourth day, the dilatation occurred with very little pain. Lavage was done promptly. In this case there was a history of alcoholism. Some cases are reported occurring as late as thirty days after the operation. It seems impossible to account for it as a toxemia or due to the anesthetic.

At the present time I believe it is a paralysis, but we have to do with a condition which is not always the same; theerfore the etiology may not always be the same.

Referring to the experiments: experiments were done by Carrion and Hallion some four years ago, cutting the pneumogastrics in a dog and producing a dilatation; that is probably more in point than any other work I have seen. A great deal of ingenuity has been exercised in trying to bring about this condition.

We have not fully developed the etiology, but this is only one of a number of things which surgery has to investigate further.

E. F. Wells:—Before Dr. Barker closes his discussion I should like to ask him to give us some information as to the character of this 46 pounds of liquid removed from the stomach, also what (if he knows) brought it forth—whether it was the dilatation of the stomach which drew it out, or some other of the existing conditions?

CHICAGO OPHTHALMOLOGICAL SOCIETY

Regular Meeting, Oct. 17, 1910

A regular meeting was held Oct. 17, 1910, with the president, Dr. W. A. FISHER, in the chair.

INJURY TO EYE BY BUCKSHOT

Dr. George F. Suker reported the case of a young man who in 1903 was shot in the right eye with buckshot. Several shot passed through the nasal wall, entering the left orbit, scraping the upper portion of the globe and causing partial detachment of the retina. Sight was fairly good for about five years, when it began to fail, gradually getting worse and worse. A skiagram was made and showed that a shot was pressing on the optic nerve. The disc was partially choked in the upper quadrant from the pressure. A Kroenlein operation being possible, the shot was extracted from the optic nerve. Vision then was about three feet. Four weeks afterward vision was 20/100 and has remained so.

OPTIC NEURITIS TREATED BY TUBERCULIN

Dr. W. E. Gamble reported the case of a physician suffering from an optic neuritis in which excellent results were obtained from the injection of tuberculin.

DISCUSSION

Dr. L. E. Schwarz had a case similar to Dr. Gamble's due to grippe. He had one hundred and five fits, extending over a period of eight or nine years. During that time the field for form perception never suffered material damage, whereas the fields for colors fell and rose and then settled down to about the size they were when at their best. He did not suffer a marked contraction in any field except for red. Vision was 20/20 throughout. There was a marked optic atrophy.

Dr. E. K. Findley saw this case in the early stage, but the fact that vision was markedly reduced made the prognosis unfavorable. Under mercury the patient grew worse. Tuberculin seemed a last resort, and it was rather surprising to note the amount of vision the patient now has with so much atrophy.

A CASE OF SUDDEN BLINDNESS WITH OBSCURE ETIOLOGY

Dr. H. B. Young, of Burlington, Iowa, reported the case of a patient under observation eight years. At first the right eye had very poor vision, 20/130. There was a considerable deposit on the posterior lens capsule. Vision in the right eye was 20/30 plus, with a small amount of astigmatism against the rule. The left eye remained unchanged; the right eye steadily grew worse. In July, 1910, vision in the left eye suddenly failed. It was 20/100 plus. Pulse was slow; blood-pressure slightly below normal. When stepping on a chair or stepladder the patient had a sense of falling backward. The nervous reflexes showed no special changes. He had no headache. In the left eye the disc was pale and blurred. Since July he has taken increasing doses of iodids, without any effect. The tension of the globe is the same to-day as it was in July. He did not think that it was a case of atrophy because, if so, there would have been a steady decline.

DISCUSSION

Dr. Henry Gradle said that he could not see any change in the optic disc, and that the slight blurring seemed to be due to optic reasons, haze in the vitreous, or on the posterior surface of the lens.

Dr. Oscar Dodd was not at all sure as to whether the nerve head should appear as it did. The pupil was not dilated and therefore the fundus could not be examined thoroughly. He had seen these cases with fine dots on the posterior surface of the lens, which have remained nearly stationary for a long period, and then showed a degeneration of the retina, much as this case did, but the change was a gradual one and not a sudden one, as in this case. He agreed with Dr. Gradle that the blurring and appearance of the disc was due to the reasons here given.

UNUSUAL MAGNET CASES

Dr. W. A. Fisher reported three cases. The first patient nine years ago had a piece of iron fly into his right eye. Attempts were made to remove the iron by operation, but failed. Three years ago glasses were prescribed successfully for headache. Recently the eye became irritated and presented the picture of beginning iritis. A foreign body could easily be seen in the anterior chamber, the end sticking into the iris. The lens was absent, the capsule only remaining. Tension was normal. The next morning the piece of iron was easily removed with the giant magnet. It was more than one-quarter inch long. Vision is 20/20.

The second patient was struck in the eye by a piece of metal passing through the lower lid into the conjunctiva. A probe could be passed through the opening to the eyeball. An opening was made above and to the temporal side and with great difficulty a piece of iron, 5 mm. long, 3 mm. wide, and 1½ mm. thick, weighing 2 grains, was removed.

The third patient had a piece of metal enter the eye through the cornea, passing through the iris and into the posterior chamber, where it could be seen lying on the retina. The lens was not injured. The foreign body was too large to admit of its being drawn into the anterior chamber without injuring the lens; therefore, it was removed through the sclera, first making a conjunctival opening. Three weeks after the operation vision was 20/30. The case is unusual in that the foreign body was removed through the sclera.

ANATOMICALLY MISPLACED PUNCTA

Dr. Clark W. Hawley reported the case of a man, seen five years ago, who complained of epiphora which evidently had troubled him all his life. When he attempted to probe the passages and pull down the lower lid, he noticed the punctum pointing upward from the upper surface of the lid edge. There was an absence of the punctum on the lachrymalis. The other eye presented the same appearance. There was no eversion of the lid margin. Otherwise it was normal in every way. The punctum was about 2 mm. from the edge of the lid and led directly into the canaliculus. Instilling cocain a few times, he inserted a knife into the punctum for a short distance, then turned it backward toward the eyeball as far as possible, and made a slit just sufficiently long to extend down the inner surface of the lid about two or three millimeters, the direction being at an angle to the margin of the lid, backward toward the inner canthus. The patient recovered completely.

A second patient, aged sixty, presented the same condition, except that the puncta were situated back a little from the edge of the lid, not quite so far as in the first case. The same operation was performed, with the same good result.

The third patient, a middle-aged woman, presented the punctum on the upper surface of the lid on the left side only.

In the fourth case the puncta opened directly upward. The same operation proved to be sufficient to give relief.

The last case was one of absence of a punctum, the canaliculus being present. A punctum was made successfully, the same course being pursued as in the cases of misplaced punctum. This patient, too, recovered.

DISCUSSION

Dr. Oscar Dodd saw one of these cases which had been exhibited before the society. He personally had one case of congenital absence of the punctum, but in this case he could not find a canaliculus.

METHOD OF DECOLORIZING THE CONJUNCTIVA IN ARGYROSIS

Dr. L. E. Schwarz employs a method which consists of injection into the conjunctiva of potassium iodid in saturated, half saturated or 30 per cent. solutions, the strength depending on the reaction following each treatment. With the smallest needle of an ordinary hypodermic syringe and a broad-sided forceps, a puncture of some portion of the stained area is made and the needle is passed superficially 8 millimeters or more into the substance of the conjunctiva, care being taken to keep parallel to and as near the surface as possible. Three or four minims of the solution are injected very slowly. If the discolored area is extensive and the reaction is slight, the injection may be repeated at a point as far removed as possible from the first. When all irritation has subsided, which usually requires from two to three weeks, the injection may be repeated at other points, until the stained area has been well traversed. The effect of the potassium iodid as far as decolorization is concerned is progressive and slow, but certain, producing an almost normal color in the conjunctiva. He has used this method since 1905, with unvaryingly good results.

DISCUSSION

Dr. L. M. Grosvenor saw some of Dr. Schwarz's patients and on inquiry learned that they were using a 5 or 10 per cent. solution of argyrol or protargol at home for some inflammatory condition. They keep the solution on hand and instil it from time to time, as they deem it necessary. The result is the argyrosis. Patients should be warned not to use such solutions indiscriminately.

In a case of dacryocystitis occurring in an old lady he injected argyrol into the puncta and canaliculi. Some of the solution trickled down through the nose, and soon there followed a little bulging of the lower lid. Five days later she returned with an inflammation. An argyrosis followed. He warned against the too free use of these solutions in lachrymal troubles, because of the tendency of the fluid to extravasate.

Dr. Thomas Faith referred to a report made by a French author some years ago on the use of a solution for the cure of incipient cataract. He tried it in several cases, but the patients complained of much pain. In some a severe chemosis occurred, which remained for ten or twelve days. He attempted to make the injection subconjunctivally, but pain resulted nevertheless. Then he used some soluble iodin solution, supposed to be non-irritating, but the result was no better than from the use of the iodid of potash, except that there was no pain.

Dr. Willis O. Nance has seen many cases of argyrosis. In one case the stain was caused by the use of nitrate of silver drops prescribed for home use by a foreign physician. There was an area comprising fully four-fifths of the palpebral conjunctiva, of a dark blue or blackish hue. He thought Dr. Schwarz's method practicable, but failed to see how it is possible to inject the solution into the stroma.

Dr. Harry Woodruff stated that there are some rules which should be followed in these cases, and one is never to use any preparation of silver in the eye for more than thirty days. That is about as long as the tissues will stand it without becoming discolored, that is, a 10 per cent. solution. Another rule is never to use any preparation of silver as an injection into the lachrymal sac, because one never knows when the canaliculus may be punctured at some point and a serious condition follow.

Dr. Major Worthington inquired whether Dr. Schwarz had used this method in cases of stains about the eyeball. He had an unfortunate experience in injecting a very weak solution of argyrol in a case that had been probed and where he thought he had passed the probe into the nose. Subsequently he found that there was a false passage. A marked stain was produced. Although it is gradually fading now, after two years, there is still some discoloration.

Dr. W. A. Fisher said that if he had to choose between injecting argyrol and protargol into the lachrymal sac and removing the sac, he would favor removing the sac, despite the fact that the injection method is apparently a very simple one.

Dr. Robert von der Heydt did not think it so simple to successfully remove the sac, and prefers to inject it for a period, and as argyrosis is really a very rare complication and due to forced hypodermic-like methods, why deprive patients of a treatment which is effective? After irrigating the sac with boric acid solution, instil a drop of argyrol or protargol solution. In a second it is regurgitated at the top punctum. The tissues are thereby reached by the silver solution in a manner in no other way possible.

Dr. L. E. Schwarz said that there is more or less pain and the more perfectly the procedure is carried out, the greater the pain. That is why one should not attempt to do too much. It is difficult to keep close to the surface in the case of a mucous membrane as thin as the conjunctiva, yet the results justify the procedure. Only three minims are injected, as a rule, even allowing for the small size of the drop coming from a small needle. The injected fluid seems to penetrate the tissues. That is why no pressure is made at the time the needle is withdrawn. There frequently is some reaction in the way of swelling, but never amounting to very much.

As to Dr. Nance's remarks, the reason he laid such emphasis on the fact that he did not want it understood to be a subconjunctival injection is because of the usual definition placed on such injection. It means the needle going down into the deeper tissues, whereas he keeps the needle as close to the surface as possible. He has not had a case of argyrosis of the conjunctiva of the bulb, and thought it would be rather difficult to make an injection in such a case because of its extreme thinness. Results can be obtained with greater readiness and ease in the case of integumental staining, because the needle can be inserted easily into the proper place.

HYPERTROPHY OF TARSUS

Dr. C. J. Swan reported a case with a negative history. The only possible manifestation of inflammation was an occasional edema about the lid. The change in the tarsus was first noticed about two years ago. Since then it has gradually increased in size, most of the hypertrophy being on the skin surface, so that it is impossible to turn the lid. There is no irritation or reaction of any kind.

DISCUSSION

Dr. O. Tydings had a case somewhat similar to this. There was a decided thickening, more so than in Dr. Swan's case, although not so much broadened out. It had been treated for some time as a trachoma. It had existed for about three years. There was no involvement of the other eye. He used tuberculin and got a response. The patient improved under tuberculin injections, but finally disappeared from observation, so that no report can be made on the further progress of the case.

PULSATING EXOPHTHALMOS

Dr. Francis Lane reported a case where the patient was struck on the head with a brick, about three months ago, the result being a fractured nose. After about twelve days there was marked ectropion of the lower lids. The lids were so chemotic that nothing except the conjunctiva was exposed in the lower lid. The upper lids were edematous and chemotic. Both corneæ were exposed. Cultures and smears were negative, except for diplococci, Gram-negative, and the xerosis bacillus. The lids were so very edematous that it was necessary to do

a canthotomy. The conjunctiva was scarified vigorously. Vision at the time of entrance was about 8/200 in both eyes, but improved gradually. After about ten days it was 20/50 in the left eye, and 20/100 plus in the right eye. Potassium iodid was given. After another ten days' vision in the left eye was about 20/30. Right eye 20/50. By oblique illumination the iris in the right eye was seen to be muddy. The patient developed an iritis. In the right eye there was enormous dilatation of the retinal veins. There were many small hemorrhages around the disc. The patient had the three cardinal symptoms of exophthalmos, the pulsation, the bruit and the exophthalmos. The patient described the bruit as a blowing murmuring sound in the left ear. The condition was bilateral, which could be accounted for anatomically, he thought, because of the connection between the right and left sides of the cavernous sinus. Nasal examination and the skiagraph were negative. The bruit was readily heard objectively. To-day vision in the right eye is 20/20, and the eye can be compressed without producing pain. Pulsation was continuous over the left temporal region, rather accentuated during systole. The only treatment given aside from the local treatment was potassium iodid.

WILLIS O. NANCE, Secretary.

Regular Meeting, Nov. 21, 1910

A regular meeting of the Society was held November 21, 1910, with the President, Dr. W. A. Fisher, in the chair.

CONGENITAL ABSENCE OF OPTIC DISC

Dr. Clark W. Hawley presented a girl, aged 12 years, who complained of failing vision, first noted five years ago. Retinoscopy showed mixed astigmatism. Correction did not improve vision, except to make it brighter. Fundus showed the blood-vessels as in the normal, but entire absence of the disc. There was no sign of an exudate. The retina and choroid were clear and distinct. None of the blood-vessels are obscured. In the left eye, especially, there is a peculiar reflection along the blood-vessels which looks like an exudate, but it changes its shape and position. The circle of light can be followed through the vitreous and there is a reflection back from the vitreous, but by careful watching one can see the blood-vessels in nearly all directions. It is evident, he said, that there is a congenital malformation in the posterior portion of the eye. The visual fields were not reduced.

DISCUSSION

Dr. Thomas A. Woodruff called attention to an article by C. H. Beard in the *Ophthalmic Record* for June, 1901, in which is reported a case of absence of the optic disc simulating choked disc.

Dr. Brown Pusey thought that he could see the outlines of the nerve-head in the right eye.

Dr. E. V. L. Brown was unable to find any evidence of a disc, but he thought that the vitreous was changed quite a little and suggested that there might be present a remnant of the embryologic vitreo-glial structure, which might account for the condition. The type of disc corresponds to type one of Elsnich's classification. There might be, he said, some change in the transparency of the normal glia both in the vitreous and retina.

LYMPHANGIECTASIS MULTIPLEX

Dr. J. F. Burkholder reported the case of a woman, aged 30 years, who complained of headache, failing vision and a feeling of roughness in the eyes of three or four weeks' duration. Vision was: O.D. 20/50; O.S. 20/60. Glasses relieved the headache, but were not comfortable. The bulbar conjunctivæ of both eyes showed many straight chains of multiple, moniliform injections or dilatations radiating outward from the cornea to the fornix, and measuring about .75 mm. in

diameter. Pressure emptied these dilatations of a colorless fluid. There was no evidence of conjunctival injection. There was also marked corneal disturbance. A curved band of infiltration, 2 mm. wide, extended horizontally across the left cornea, the convexity facing downward, the upper border passing across the lower pupillary area. This band was nebular in character. The cornea was not rough. It extended to the sclera on either side, where there was slight vascularity. The right cornea was clear, except for a small phlyctenular elevation at the nasal corneo-scleral margin in the region of the palpebral fissure. This was circumscribed by a narrow area of vascularity with its greatest width on the scleral side. This became vascular, then pustular and finally broke down, leaving a marginal ulcer, which was exceedingly persistent.

MODIFICATION OF SCHIOTZ TONOMETER

Dr. H. Gradle exhibited an instrument that differed from that of Schiotz in mechanical detail only. The foot-place is somewhat smaller; the stylet is only 2.5 mm. long, and the exchange of weights is more simple. The least imperfection, even an erosion of the cornea, is registered by the instrument.

LYMPHOCYTOSIS IN PERFORATING EYE INJURIES

Dr. H. S. Gradle has examined the blood of patients who sustained a perforating wound of the eye and where other causes of leukocytosis could be excluded. He divided the cases into three classes. In the first class were 18 cases, in which the injured eye was removed because of the fear of sympathetic ophthalmia. In each case there was an increase in the number of mononuclears of from 20 to 80 per cent. In the second class were 21 cases, where the wound healed spontaneously, or where the eye had to be enucleated on account of early panophthalmitis. In all these cases the blood was normal. In the third class were 13 cases of iridocyclitis of various forms which could in no case lead to sympathetic ophthalmia. The blood was normal in every case. He said that in cases of perforating injuries which would lead to a sympathetic ophthalmia and where the mononuclears are decidedly increased an acute aggravation of the iridocyclitis is at times shown thirty-six to forty-eight hours before the clinical manifestations by a further increase in mononuclears of at times 20 per cent. Within two to four days after enucleation of the injured eye the blood count falls to normal and remains there.

DISCUSSION

Dr. H. Gradle has followed this in his own practice recently. The first two instances were very striking. The first case was a perforating injury resulting in a rent through the cornea, exposing the anterior chamber and two or three smaller rents which did not perforate. The larger wound remained open for five or six days. Although the lens was not injured, the clinical aspect was threatening, due no doubt to the infiltration caused by all injuries. The wounds healed slowly. The blood count was normal and the patient recovered without any permanent injury except a blur from the central scar running through the middle of the pupil.

In the second case a wire passed through the cornea into the lens. The eye did well except for some flushing when it was exposed to the light. Toward the end of the sixth week a few spots of keratitis punctata appeared. The eye was enucleated. During the entire six weeks the blood was as reported by Dr. H. S. Gradle. In three other cases the blood count was normal with slight daily fluctuations.

Dr. E. V. L. Brown referred to the opinion given by McElroy, of the Moorfield clinic, that the infiltration is a plasma cell infiltration rather than a mononuclear leukocytosis. The observation has been uniform in eighteen or twenty cases. In Fuchs' clinic these cases have not been checked up on account of the improper stain used. However, the plasma cell infiltration was a typical one. If, he said, the lymphocytosis can be shown to be a constant differential point between an eye that may cause sympathetic inflammation and one which will not, it is exceedingly valuable.

Dr. Gradle, in closing, said that Dr. Ormond, of Guy's Hospital, London, working independently, found the same thing, but he maintains that the increase was due to the large lymphocytes and not the small ones. However, that is a difficult matter to determine, and is really one of personal equation. Dr. Gradle has used the differential stain for plasma cells, but at no time has he found anything resembling them, either Ehrlich's variety or Turk's Reitzungs or irritation forms.

M'LEAN COUNTY

The McLean County Medical Society met in regular monthly session at the City Hall, Bloomington, December 1, 1910, with Dr. E. Mammen, president, in the chair. No reports were made by the board of censors nor the committees on judiciary nor hygiene. A suggestion was offered that a recognition of any venerable members who have practiced medicine fifty years be made. A motion to do this at some later date prevailed. Reports of cases were omitted. Dr. J. Whitefield Smith's paper, entitled "The Development of Medical Education in America," was then read.

After a very excellent historical sketch and a thorough exposition of the relation of the public and the government to medical education, the paper was open to general discussion. The following visitors took part in the discussion:

President Kemp, of Wesleyan, said he was edified by the paper. He confessed a realization that medical education bore a more important part in practical or general education than generally believed; that health journals, fad treatments and suggestions by laity, etc., were not scientific and did not enlarge the reasoning power nor add to real knowledge.

Reverend Pickard said that the professions were not reverenced so much as formerly. The man of ability is regarded even more than formerly. Medical education has been too much of a physical education, not enough psychical; that this branch, namely mental science, was being taken up outside of the medical profession, but it properly belonged in medical education.

Hon. Edmund O'Connell said the masses try to get wise but must depend upon medical lore for relief, and that confidence in a properly educated medical profession should be constant; that no millennium was near and that the guide posts of science were our only hope.

Professor Stapleton, superintendent of Bloomington schools, thought that medical men had always been noted for magnanimity and were to-day in the foreground in advancement for public good, as shown by the recent anti-tuberculosis campaign in this city. He welcomed medical supervision of the schools. He would cooperate with them in discovery of diseases, and in stamping out infectious diseases.

Professor Moore, County Superintendent of Schools, felt that a round-table session of medical men and teachers would be of great public good. A book entitled "Civics of Health" was now in the hands of many teachers. Public health and school hygiene is one of the strong points in our city schools and we are trying hard to help the rural teachers up with the advance movement. Illinois as a state is behind many neighboring states in these matters, but McLean County is trying to be an advanced county. Twenty rural schools have made building improvements with this object in view during the last year. To the medical men who can't see why the faker thrives he said ignorance of the masses is the whole reason.

Mrs. Morgan, director of the Brokaw Hospital, inquired how more stringent quarantine regulations can be obtained.

Rev. Zendt said that the narrowness of the profession is widening, the general uplift is at hand, that these munificences are very laudable, and by some witty remarks impressed his points deeply.

Secretary Scofield, of the Y. M. C. A., admonished the laity and medical men to get together, to not be too modest and to make an outery when the innocent were being duped by pretenders. We need a change of base. Medical men are capable, but should be public officers, custodians of health, rather than an emergency apparatus. There are places in the world where such is the case, and we can attain it here.

Drs. Taylor, Mammen, Dobson and J. W. Smith replied to the gentlemen who had favored us with remarks, stating that public co-operation with medical men meant advance; that it could be accomplished in that way only. If the first-class colleges only were educating all medical men there would be no fear of incapacity. The public might then easily protect itself from charlatans, poor quarantine and many other needless dangers with which they are now jeopardized.

MADISON COUNTY

The meeting of January 13 in Alton was very successful with four applications for membership and 20 members in attendance. Senator Beall's Bill amending the marriage laws was read, discussed and by resolution heartily endorsed. The death of Mrs. Susetta B. Yerkes, wife of our fellow member, Dr. T. P. Yerkes, being announced, the chair appointed Drs. Cook, Pfeiffenberger and Halliburton as a committee on resolutions. Dr. Black's address on "Medical Education" was a masterpiece, and was thoroughly appreciated. He called attention to the marked contrast between the product of the commercial medical school and that of a first class college or university. He made a plea, from the standpoint of the patient, for a more thorough preparation of the prospective medical student, asked the cooperation of our members in the great task of weeding out the commercial college, and to encourage the larger institutions to put forth still greater efforts to raise the standard. It was a great address, and the thanks of the society were extended to Dr. Black for his efforts by unanimous vote. A resolution was also passed endorsing the action of the National Council in Education of the American Medical Association and pledging our support in all future efforts. Members in attendance were Drs. Luster, Tulley, Sims, Riley, Johnson, Wedig, Halliburton, Cook, Fischer, Jones, Pfeiffenberger, Smith, Duggan, J. H. Fiegenbaum, Ferguson, Foulds, Wilkinson, Davis and the secretary. The society will meet again Feb. 3, 1911, in Edwardsville, with State President, A. C. Cotton, of Chicago, as principal speaker. E. W. FIEGENBAUM, Sec'y.

MORGAN COUNTY

The Morgan County Medical Society held its regular monthly meeting Friday evening, Jan. 13, 1911, at the Public Library, Jacksonville, Illinois, with the following members present: Drs. Cole, Crouch, Dewey, Gailey, Hairgrove, Hardesty, Milligan, Norris, Ogram, Reid, Stacy, Webster of Murrayville, Woltman and Gregory. Dr. H. C. Woltman, newly elected president, presided. Mr. Cummings, representing the Widenham and Daub water interests, spoke on the source, supply and potability of the water from the gravel beds north of the city. The recently elected secretary presented his resignation, asking that it be accepted on the ground that the Society is checking its progress and disrupting its organization by continually changing its secretary, but it was not accepted.

Two of the most interesting papers read in the society for some time, were read by Drs. George Stacy and Grace Dewey. The former gave a résumé of the recent literature on the "Ehrlich-Hata Treatment of Syphilis." The paper of Dr. Dewey dealt with the history and development of the "Wassermann Reaction" and though necessarily employing many technical details, was listened to with

considerable interest owing to its close relationship to the previous paper. The discussion of the papers was led by Drs. Crouch, Cole and Norris and was participated in with feeling by others after which the society adjourned.

A. R. GREGORY, M.D., Secretary.

SANGAMON COUNTY

The annual business meeting of the Sangamon County Medical Society was held January 9, 1911, in the Lincoln Library, Springfield, Ill. The following officers were elected for the year: Dr. George F. Stericker, president; Dr. W. A. Young, vice-president; Dr. O. H. Deichman, secretary and treasurer; Dr. George F. Stericker, delegate; and Dr. W. A. Young, alternate. The new members admitted to the association were: Dr. J. A. Wheeler, Auburn; Drs. E. B. Godfrey, C. C. Ellis and Franklin Maurer, Springfield.

A general experience meeting, participated in by nearly every one present, followed the election.

STEPHENSON COUNTY

Report of the autumnal meeting of the Stephenson County Medical Association. The meeting was called to order by the president, Dr. A. E. Smith. The following answered to roll call: Drs. Best, E. H. Clark, Linda K. Hutchins, Harlan, Hewetson, Karcher, Lins, Leavy, Morrison, Peck, Phillips, Rosensteil, Stealy and Thompson. Dr. J. H. Stealy reported the autopsy findings in his case of splenic anemia that was presented before the society last July. He also reported a case of splenic enlargement in a young girl, the enlargement following an attack of pharyngeal diphtheria, which attack was the second endured by the patient within a period of two months' time. Another case presented by him was that of a young lady on whom he had done some plastic surgery for the restoration of function of the shoulder joint following an injury she had sustained wherein the head of the humerus was fractured at the anatomic neck. The doctor spoke of his former methods of dealing with such cases, wherein he had used the accepted treatment of the past, and had had uniform results that were not satisfactory. The head of the humerus was removed and fascia from the deltoid muscle was placed over the end of the bone. The young woman is now able to use her arm nearly as well as she could with the natural joint. X-ray plates were shown the members, demonstrating the relative positions of the bones before and after the operation, and all were impressed with the great freedom of movement of the arm and the absolute success of the operation.

Dr. A. E. Smith gave his annual address and urged in it that the members work together with a spirit looking toward the common good of all. Dr. W. L. Karcher gave a timely talk on the subject of the "Diagnostic Significance of Backache," and reminded us not to forget this important anatomic field with its fertile landmarks of diagnosis and indications for treatment. Dr. C. J. Leavy, who lately joined our society and is now practicing in Freeport, gave a scholarly résumé of his observations relative to the "Diagnosis and Treatment of Appendicitis," as now followed out by our leading internists and surgeons. Dr. Linda K. Hutchins read a paper on the subject of "Epidemic Infantile Paralysis." The doctor's paper was quite apropos, for within the past few days several cases have been noted in our vicinity which have proved to be this disease.

The name of Dr. C. F. M. Butterfield of Rock City was placed before the society for active membership, and on motion was ordered to be placed before the board of censors and to be reported at the next regular meeting.

J. SHELDON CLARK, Secretary.

FRACTURES OF THE UPPER END OF THE HUMERUS WITH DISLOCATING OF THE HEAD, AND NEW JOINT FORMATION

J. H. STEALY, M.D., FREEPORT

1. Fracture of the anatomical neck alone or associated with fracture of the tuberosities.

2. Fractures of the greater or lesser tuberosities.

3. Epiphyseal separation.

4. Fracture of the surgical neck with or without impaction.

5. Dislocation of the head of the humerus combined with any of the fractures just named.

Diagnosis is not so easy in the non-impacted cases, even with displacement present. Much therefore depends on the degree of displacement and the movements of the shaft producing pain and the abnormal mobility. Where impaction of fracture exists all these signs are absent, and the diagnosis must be made from the history of the case, manner of the injury, change in the axis of the arm, and most important of all, by the *x*-ray. With the head of the bone in the glenoid cavity, and the contour of the shoulder, dislocation will be excluded.

1. Fracture of the anatomical neck is more frequently associated with dislocation of the head of the bone than a fracture through the surgical neck. The head may be entirely detached and lie in the joint cavity or be displaced in the axilla. Fractures of the anatomic neck of the humerus are regarded as very rare, i. e., where the line of fracture does not pass through the tuberosities and where the fracture is entirely within the capsule.

J. J. Buchanan published reports of the recorded cases of this injury in *Annals of Surgery* for May, 1908. He collected thirty-four undoubted cases and nine which were unverified by the *x*-ray.

Scudder believes that the fracture is frequently impacted and is not recognized by ordinary methods of examination, as the fracture is difficult of diagnosis and often impossible without the *x*-ray. With swelling and great pain in the region of the shoulder joint, with loss of function and when upward pressure of the humerus produces pain and erases pretty much all the deformity with or without crepitus, we are certain of a fracture.

2. Fracture through the tuberosities with fracture of the anatomic neck calls for the same treatment as fracture of the anatomic neck; if the fracture is through the greater tuberosity, then immobilization with outward rotation of the arm. If the lesser tuberosity alone is fractured, the arm should be rotated inward.

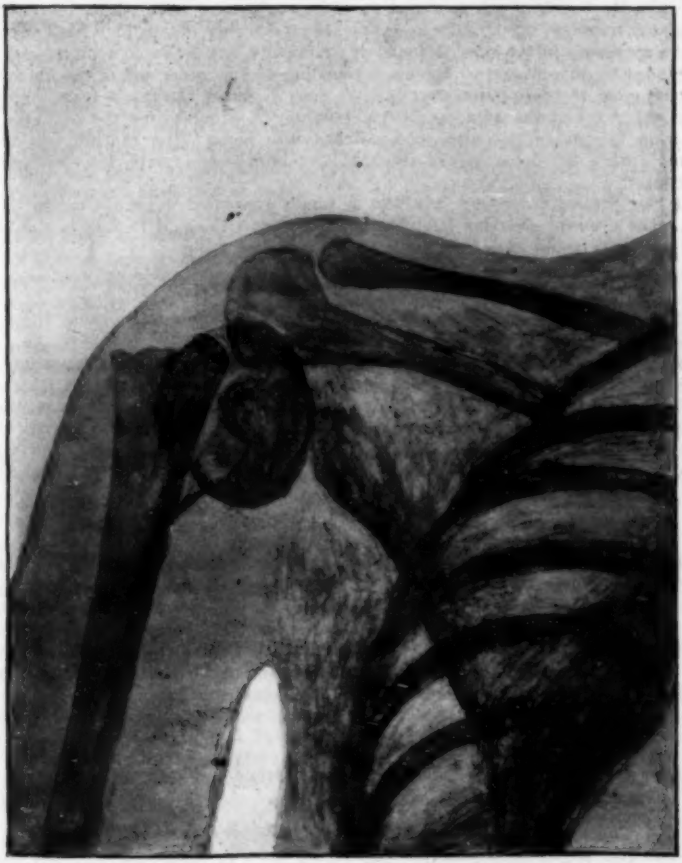
3. Separation of the epiphysis is most common between the ages of 6 and 18 years. It is treated by reduction under an anesthetic, with traction on the elbow, while the surgeon presses the upper end of the lower fragment backward and outward. With forward displacement you may encounter much difficulty in its reduction; here you must use extension and abduction of the arm, aided by pressure on the shaft of the arm. When the fragments become locked the difficulty of reduction is greatly enhanced.

4. Fractures of the surgical neck. When we have but little displacement with or without impaction, an effort at reduction is worse than useless and should be left alone. If the tuberosity or head is displaced by the lower fragment being wedged between them, the fragment may be loosened by gradual abduction of the arm so as to keep the ends in apposition. If reduction is impossible then the open method by incision must be resorted to.

5. Fractures with dislocation should be reduced as soon as possible; if not, this peculiar dislocation of the head, with an exuberant callus, gives restricted motion and becomes very painful from pressure. In fracture of the surgical neck with dislocation, if reduction fails by traction on the abducted vertical limb while pressure is made on the head with the fingers in the axilla, then the open method over the anterior aspect down to the upper fragment, and if the head is not easily reduced it should be removed.

Fractures do not exactly coincide with the limits of the neck. The use of the *x*-ray and the open method of treatment have taught us that fractures of purely the anatomic neck are very rare; but what actually does occur are fractures separating the head, but running through the tuberosities or below them. This we have verified in our four cases treated by the open method.

I report here four cases of fracture of a dislocated humerus with a subglenoid or retro-glenoid dislocation of the fragment, viz., the head. These cases, as you all know, are usually irreducible without surgical intervention, and often



then impracticable without inducing such a degree of trauma, not only to the soft parts, but to the hard parts as well, as to make its retention impractical. In our first three cases, the fractured fragment, viz., the head, was after replacement, which was difficult, attached to the shaft either with chromic catgut or aluminum wire. These cases made an immediately nice recovery anatomically, but functionally the joints were far from being satisfactory.

The skiagraph I here show you was taken from a female patient, aged 17 years, who was thrown out of a carriage, striking on the left shoulder. Her physician was sent for. Unfortunately, when he arrived there was already great

swelling and tumefaction of the parts, making a correct diagnosis impossible. The patient was anesthetized and an effort at reduction made. The end of the humerus was apparently put into place, but there was still something lacking to complete the symmetry and convexity of the shoulder. A mass was felt downward and inward and what proved to be the dislocated head beneath the glenoid process of the scapula, presenting very much the appearance of fracture and displacement of the glenoid process of the scapula, which was more accurately shown by the skiagraph some six weeks later, just prior to making a final effort at its reduction, which was unsuccessful. An incision was, in this case, made in the deltoid; but here the posterior incision would have made the fracture and displaced fragment much easier accessible, being not only luxated, but also rotated half way round on its axis. I found it practically impossible to replace, and so concluded to entirely extract the head, rounding off the upper end of the humerus and bringing the periosteum over it. We then dissected the fascia from the deltoid and parts of the adjacent biceps, swinging it around over the periosteum, covering the end of the bone and stitched into place. The capsule was then closed around the upper end of the bone and interposing fascia, thus making a new joint.

I here present the young lady who so kindly consented to permit me to show you what a useful shoulder joint she now possesses, which, if treated in the former methods, would have been functionally a useless joint.

CONCLUSIONS

1. Have a skiagraph of the parts as an accurate diagnosis; without it, it is impossible.

2. We do not believe it is possible to reduce this fracture when accompanied with a dislocated head, and more especially when the head is rotated on its axis.

3. By at once making an effort at reduction, if unsuccessful, the open method with the removal of the fragment or head with interposition of the fascia with the object of functionally forming a new joint, is the proper procedure, and will greatly shorten convalescence.

ST. CLAIR COUNTY

The annual meeting of the St. Clair County Medical Society was held at the City Hall in Belleville, Jan. 5, 1911. About fifty physicians were in attendance. Interesting papers were read by Drs. Florence Evans of the Barnes Medical College of St. Louis and G. O. Otrich of Belleville. The following officers were elected: President, Dr. Charles Skaggs of East St. Louis; vice-president, Dr. G. C. Otrich of Belleville; treasurer, Dr. A. E. Hansing of Belleville; secretary, Dr. C. A. W. Zimmermann of East St. Louis. A banquet was given at the Belleville House Cafe at the conclusion of the meeting, an elegant menu being served by Mr. Schlosser.

THE VALUE OF THE LABORATORY IN CONJUNCTION WITH A CLINICAL DIAGNOSIS

DR. G. C. OTRICH, BELLEVILLE, ILLINOIS

The value of the laboratory methods of diagnosis in connection with the clinical findings is becoming greater every day. This is proven by the great stress laid upon this subject in the best medical colleges, by the amount of money spent for medical research along these lines in all our great institutions, and by the rapidity with which this sphere of medical science is progressing. The general professional man at large does not realize the importance of this and try to keep in touch with it and be progressive instead of retrogressive in his work.

We still find some physicians who condemn the simplest laboratory methods because they do not know the value of it. Why not the value? Because they don't knock the dust off their books and magazines to see what the world is

doing. When they go to the city for post-graduate work, instead of visiting a clinical laboratory and seeing these methods in vogue and making a study of the case or history of the case from which these specimens are taken and derive some value or benefit for their daily work, they look for the biggest surgical guns in the city. They will sit for hours and watch the blood flow and ask questions about the operation that they could not duplicate in years of practice, when they should have asked for the diagnostician of the institution and found out how the diagnoses of the existing conditions were made. What they have gained from the clinic is the same as what they would have learned had they visited a moving picture show of the same thing. Others visit the bed-side clinics of some of the most noted diagnosticians. They see them make the physical examination and hear the history reading. They give their diagnosis as though it was the simplest case in the category of medicine. It looks wonderful to the general practitioner the way these men make their diagnoses of some of the most complex diseases, in their simple way. It would not be so alarming to the visitor if he only knew that these men have a corps of men working in the laboratory, and that there is a laboratory report which they read before going over the case. Unless the practitioner has access to this report and thoroughly understands it he has gained nothing here, as there are so many pathologic conditions that we can not elicit by our five senses and there are so many diseases in which the physical findings have so much in common.

We know that the general practitioner has not the time to make a laboratory investigation of all his cases but he should be well enough qualified in elementary laboratory technic to know that there are ways and means whereby he can relieve himself of any uncertainty in regard to his diagnosis. So to give his patients the benefit of these sciences he should keep in touch with the microscopist upon whom he can call for assistance at any time. But he should not rely upon his associates for too much or he will become careless and neglectful. So to overcome the difficulty it is essential that every physician should have a knowledge of a certain amount of this technic that he himself can depend upon when in need. The trouble with a great number of practitioners is not merely the fact that they do not possess the knowledge but that they are negligent in their work.

The State of Illinois maintains a public laboratory for the benefit of physicians and the public. The men at the head of this institution are always complaining of the fact that physicians do not take advantage of it. It seems as though the physicians are doing the public a great injustice in that they who pay the taxes for the maintenance of this laboratory are not receiving the benefit of it. By referring to some of the diseases and pathologic conditions in which an early and accurate diagnosis is of the greatest importance, I will endeavor to impress upon you the value of the microscope and its chemical associates. One of the greatest mistakes and curses that comes to a physician is the inaccurate diagnosis of neoplasms. No man can by a macroscopic examination of a tumor distinguish with any certainty whether it is benign or malignant. Think how many cases could have been relieved or cured if the small, insignificant growth (as it was to the physician) had been properly diagnosed and radical treatment administered. Many diseases with a very different pathologic nature have a clinical picture so similar that a differential diagnosis is not probable.

The following case is to the point: A man, aged 35 years, had a growth about the inner canthus of the eye. History negative. Was diagnosed and treated by a number of reputable physicians for epithelioma, with negative results. A Wassermann was positive, and under mercurial treatment the tumor disappeared in a few weeks.

As it is the physician only who has the power to cope with syphilis, so it is the duty of each of us when he finds the first suspicious lesion to be on the lookout for the spirochete, or to make one of the several tests as the Wassermann or Noguchi, so as to be positive and if it exists to nip it in the bud and not wait until the secondary or tertiary lesions appear, for then there is the danger of further infection.

There is another group of diseases which can only be diagnosed by the use of the microscope and its chemical accessories. These are the diseases that affect the blood directly and cause the cells to undergo changes in accordance with existing toxemia. How many cases of anemia have been treated for cancer and tuberculosis? How many pounds of quinin have been given, where the malaria organism did not exist? We are all guilty, so is it not time to get right? To illustrate one case: a patient was treated for typhoid until a few days before death when a blood examination was made and the plasmodium malariæ was found. It was then too late. So it is with typhoid. If the doctor would have a Widal or Diazo urinary test made it would save him much worry and embarrassment. There have been numerous cases of typhoid fever in the early stages operated upon for appendicitis. So in cases of abdominal operations a leukocyte count will make a great difference in your diagnosis, for when you expect a leukocystosis and find a leukopenia it puts you on your guard.

The examination of the sputum is one we all know the value of without discussion. I will therefore pass on to the stomach analysis. Is there any physician who has a chronic disease of the stomach willing to take a diagnosis of dyspepsia? I don't think so. But most of you are willing to give it, and when you do you are giving your conscience a placebo. Why not give your test meals and examine the stomach contents both macroscopically, microscopically and chemically; differentiate the cancer, ulcers, inflammations and neuroses in the early stages instead of waiting for the tumor formation of cancer, the perforation or hemorrhage of ulcer, or until the patient has become a hypochondriac from his neurosis. We know that two of the most important eliminatory systems are by the alimentary and urinary tracts. Through these most of the toxins of the body are disposed of. We all know when disease exists there is an alteration of the excreta and these are very seldom discernable to the naked eye. So these also will have to be examined in the laboratory to find out what physical and chemical change has taken place within the body. For instance, there can not be too much stress put upon occult blood in diseases of the stomach, and the finding and determining of the different nematodes that infest the alimentary canal.

Take notice how long the hook-worm has escaped the uncertain eye of the practitioner. It had to present itself to the microscope for investigation, and from the time and money that has been spent the last few years it shows that the discovery was of great importance and a signal for the physician to be on his guard. So it is with the examination of the urine. You know nothing until you give it the test. It not only tells of the changes that are taking place in the urinary system but by its relation to the rest of the body throughout the circulatory system, it gives the signal of distress for some of its distant constituents. By chemical analysis we can determine the extent of these functional disturbances of the constitution by determining the amount and variety of the acids, alkalies, proteids or carbohydrates that are being excreted through the kidneys. This organ itself has a very minute histologic structure, subject to a great many pathologic changes. By a microscopic examination of the urine to determine the character of these casts, cells and mineral deposits we can very readily form our diagnosis and prognosis of the lesion.

Right here let me cite a case to show what carelessness will do. A man, aged 63 years, had an itch for years. From what he said the doctors must have told him he had every disease in the dermatology. His history was mostly negative. I made a urinalysis, as a matter of routine, and found sugar. The diagnosis was therefore easy but the prognosis bad. He finally drifted to another doctor who treated him until his death. I asked the attending physician his diagnosis and he said cirrhosis of the liver. I then asked him if he had made a urinary analysis and he replied in the negative. Hence, you can readily see the false light under which the doctor and his patient were laboring.

In conclusion I wish to quote Dr. William E. Quine, the grand old physician of Chicago, "Any quack can treat a case but it takes a physician to make a diagnosis."

NEWS OF THE STATE

PERSONAL

Dr. and Mrs. William A. Haskell of Alton, have gone to Bermuda, to spend the winter.

Dr. E. G. Merwin, of Highland, was appointed county physician for Helvetia township.

Dr. Jacob Furstman, Chicago, has been appointed commissioner of health of Lacrosse, Wis.

Dr. and Mrs. Robert H. Babcock and family, Chicago, have gone to California for a stay of two months at Pasadena.

Dr. John Allen Cotton, Peoria, entered the state penitentiary, Joliet, December 28, to serve an indefinite term for forgery.

Dr. J. H. Bacon, Peoria, was operated on for appendicitis at the Proctor Hospital, December 29, and is recovering nicely.

Dr. Edward Engel, of Prairietown has gone to Oak Grove Hospital, Flint, Michigan, suffering with a severe attack of neurasthenia.

Dr. Claude Tilleson, an intern at the Henrotin Memorial Hospital was painfully burned while acting as Santa Claus at a Christmas celebration at the Nurse's Home of the hospital.

Dr. T. P. Yerkes of Upper Alton, one of the oldest and most popular members of the Madison County Medical Society, has returned from Rochester, Minnesota, where he underwent a serious surgical operation.

According to the Bulletin of the Illinois State Board of Health for December, there are six physicians in the forty-seventh general assembly: Drs. John H. Gray, Morrison, and James A. Womack, Equality, in the Senate and Drs. James H. Bell, Rochester; I. N. Martin, La Harpe, W. E. Stedman, Sullivan, and Hall Whiteaker, Mound City, in the House of Representatives.

NEWS

—By the will of the late Elizabeth Shaw, Dixon Hospital is bequeathed $30,000.

—A private sanatorium for the treatment of nervous diseases is being established by Dr. George W. Mitchell in Peoria.

—The Colonial Hospital, Geneva, has been incorporated by Drs. Raymond G. Scott, Francis M. Marstiller and others. The hospital now has accommodations for twenty-five patients.

—At the annual meeting of the State Board of Health held in, Springfield, January 5, Dr. George W. Webster, Chicago, was re-elected president and Dr. James A. Egan, Springfield, was re-elected secretary.

—A hospital for the care of destitute crippled children, to cost $50,000, has been erected three miles west of Wheaton, as a branch of

the Home for Destitute Crippled Children, Chicago. Sixteen acres of land were donated by Sears, Roebuck and Company.

—The case of Dr. Benjamin A. Arnold, Freeport, convicted in the March term of the Circuit Court of Stephenson County, on account of criminal assault, and sentenced to four years in the penitentiary, has been reversed and remanded by the Supreme Court.

—A case instituted by Dr. George T. Palmer against Dr. Addison C. James, Springfield, for alleged violation of the city ordinance which prescribes the reporting of all cases of communicable diseases, was dismissed by the magistrate on motion of the city attorney on the ground that the evidence was not sufficient.

—The Iroquois Memorial Emergency Hospital, a monument to the six hundred and more who lost their lives in the Iroquois fire, December 30, 1903, was dedicated December 30, with impressive ceremonies. The building is of fire proof construction, four stories and basement in height and contains twenty rooms including four surgical dressing rooms and two operating rooms.

—A bill is being prepared by Judge Sherman, President of the State Board of Administration, with the assistance of Dr. Frank Billings, Chairman of the State Board of Charities, providing for the sterilization of habitual criminals, imbeciles, idiots and feeble-minded wards of the state. The bill provides that in all cases the subject must be examined and passed on by an authorized board before this operation is performed.

—The Illinois State Board of Health in its annual report to the Governor, recommends the creation of a state sanatorium for consumptives; a bill providing for better methods of registration in vital statistics to conform with the provisions of the census bureau of the United States; a law providing for a revised medical practice act so as to give the State Board of Health jurisdiction over all licenses issued since 1877; continuation of the provisions of free distribution of diphtheria antitoxin to all classes of people, and a special provision for the investigation of typhoid fever in the state.

—Senator Edmond Beall, former stork mayor of Alton, is drafting a bill which he intends introducing in the Illinois State Senate, providing that in all cases before marriage licenses are issued the applicant must get a surgeon's certificate of good mental and physical condition, and that there is no physical or mental reason why they should not be married. Senator Beall says the purpose of the bill is to prevent the marriage of people who are mentally deficient, or who are suffering from diseases which might be transmitted to posterity. The bill has been endorsed by the Madison County Medical Society. Other societies should consider and act upon it favorably if they think best, and lend their assistance to Senator Beall in this matter.

—The State Board of Health has served notice on David Apfelbaum that if he continues to practice, additional suits will be brought against him. In June last the board revoked his certificate for advertising under another name than his own, and for fraudulent use of the United States mails in conducting medical practice. A short time ago the board

learned that Apfelbaum was still engaged in practice and he was served with notice to discontinue. The notice was disregarded. The board then brought suit against him for practicing medicine without a license. The defendant, through his attorney, declared that he had a license and that there was no provision in the law enabling the board to prosecute a man who had once been issued a license. The attorney took exception to this plea and pressed the suit which was tried in the Municipal Court, January 3. The court decided against Apfelbaum, who has appealed to the Supreme Court.

—A plan to unite all free medical dispensaries of Chicago, to have this organization cooperate with the United Charities and to work in conjunction with the department of health to protect dispensaries and physicians against "dispensary grafters," was announced by the Council of the Chicago medical society in its *Bulletin* of October 29. Every case that comes to a dispensary under the proposed plan will be investigated, it being a matter of statistics that 25 per cent. of the total population of Chicago is receiving free medical service, while only one-half of 1 per cent. is receiving other forms of charity. The project to curb "dispensary grafting" and to ally all dispensaries in one compact organization has been considered by the society's committee on abuse of medical charities for four years. The resolutions state that it is generally believed by the medical profession that many people in times past who were not in indigent circumstances or entitled to public charity have been cared for at public expense in the Cook county hospital and other public institutions of Cook county. These conditions, say the resolutions, tend to pauperize the recipient of such charity and work an injustice on the taxpayer who provides the money for the support and maintenance of the hospital, as well as on the medical profession, the members of which have always given freely and unstintingly of their services in the care and relief of the sufferings of the poor and unfortunate in the community out of all proportion to other classes and to their means for doing it. The medical society urges that the board should rigorously enforce the law governing the admission and treatment of patients in the county hospital and other public institutions of Cook county. They urge as a further safeguard against imposition on the county board in the management of the hospital and on the public who support it, that they should join with the other medical institutions of this city in adapting the system to be established by the Chicago Medical Society in cooperation with the United Charities of Chicago for investigation of the economic worthiness of patients and for improvement of the free medical service to the worthy poor. Addresses in support of the plan were made by Dr. E. A. Fischkin, Dr. Elmer L. Kenyon, Dr. J. V. Fowler, and Dr. C. J. Whalen. Further plans along this line will be considered at the next meeting of the council and at a conference to be held with the department of health authorities and those of the United Charities.

—Since December 1, the following articles have been accepted by the Council for New and Nonofficial Remedies:

Nucleic Acid (Merck) (Merck & Co.).
Tuberculinum Purum (Morgenstern & Co.).
Supracapsulin Inhalant (Cudahy Packing Co.).
Bornyval (Riedel & Co.).
Antiformin (American Antiformin Co.).
Acne Bacterin (H. K. Mulford Co.).
Friedlander Bacterin (H. K. Mulford Co.).
Antimeningitis Serum (H. K. Mulford Co.).
Staphylo Albus Bacterin (H. K. Mulford Co.).
Staphylo Aureus Bacterin (H. K. Mulford Co.).
Staphylo Bacterin (H. K. Mulford Co.).
Staphylo Acne Bacterin (H. K. Mulford Co.).
Normal Serum (H. K. Mulford Co.).
Noguchi Test for Syphilis (H. K. Mulford Co.).
Tuberculin T. O. A. Original Tuberculin T. O. A. (V. Koechl & Co.).
Tuberculin "Koch" (Old) (V. Koechl & Co.).
New Tuberculin "Koch" (T. R.) (V. Koechl & Co.).
Koch's Bacilli Emulsion (V. Koechl & Co.).
Tuberculosis Diagnostic "Hoechst" (V. Koechl & Co.).
Tuberculosis Diagnostic "Hoechst," dry in tubes (V. Koechl & Co.).
Tuberculosis Diagnostic "Hoechst," 0.1 per cent. solution (V. Koechl & Co.).
Vacuum Tuberculin (V. Koechl & Co.).
Dry Dead Tubercle Germs (V. Koechl & Co.).
Bovine Tuberculin T. R. (V. Koechl & Co.).
Bovine Tuberculin (V. Koechl & Co.).
Bovine Bacilli Emulsion (V. Koechl & Co.).
Bovine Tuberculin (Old) (V. Koechl & Co.).
Vacuum Bovine Tuberculin (V. Koechl & Co.).
Polygenous Tubercle Bacilli Emulsion (V. Koechl & Co.).
Dead Bovine Tubercle Bacilli (V. Koechl & Co).
Tuberculin Residue (V. Koechl & Co.).
Tuberculosis Serum Vaccine "Hoechst" (V. Koechl & Co.).
L-Suprarenin Synthetic (V. Koechl & Co.).
L-Suprarenin Synthetic Bitartrate (V. Koechl & Co.).

REMOVALS

Dr. W. T. Nelson of Bryant has retired from practice.

Dr. J. L. Cass has removed from Sullivan, to Hinckley, Ill.

Dr. A. S. Alderson has removed from Yorkville to Thayer, Ill.

Dr. Henry J. Brugge has removed from Chicago to Lewiston, Mont.

Dr. O. M. Barnes has removed from Fairbury, Ill., to Santa Anna, California.

Dr. G. J. Martz has removed from Chicago, to Hollandsburg, Dark County, Ohio.

Dr. T. J. Whitten has removed from Peoria, to Nokomis, Illinois, where he practiced formerly for many years.

Dr. Rose A. Russell has removed from the Lutheran Hospital, Granite City, Illinois, to the Cherokee State Hospital, at Cherokee, Iowa.

MEDICAL SOCIETY NOTES

At the annual meeting of the Chicago Ophthalmological Society, held at the Automobile Club on January 16, the following officers were elected: President, Dr. H. W. Woodruff, Joliet, Ill.; Vice-President, Dr. E. V. L. Brown; Secretary, Dr. Willis O. Nance; Councilor, Dr. T. A. Woodruff.

NEW INCORPORATION

Eldorado Sanitarium Company, Eldorado; capital, $12,000; conducting a hospital and sanitarium; incorporators, Samuel W. Latham, W. E. Webber, C. E. Webber.

PUBLIC HEALTH

The Illinois Commission on Pellagra have made the following report:

Indian maize or corn of the variety that Illinois grows and is feeding to the world is in no manner responsible for pellagra, that mysterious disease which has been perplexing medical men of many countries for years, according to the first report of the Illinois pellagra commission, which is ready for presentation to the legislature. The commission asks the legislature to appropriate $15,000 with which to prosecute its researches in the next two years. Illinois is the first state in the union to recognize the disease officially and to make official investigation of its origin.

Soon after pellagra was found to be so prevalent at the Peoria state hospital for the insane, where many deaths have been recorded, Gov. Deneen named the following medical men of Illinois as a pellagra commission and empowered them to make a thorough inquiry:

Dr. Frank Billings of Chicago, president; Dr. J. L. Greene, alienist of the state board of administration; Dr. H. Douglas Singer, director of the state psychopathic institute; Dr. H. S. Grindley, Dr. George W. Webster, president state board of health; Dr. Howard T. Ricketts, Dr. W. J. McNeal and Dr. Oliver S. Ormsby.

There are official estimates from the boards of health of thirty-seven states in which they acknowledge the presence of at least 7,000 well defined cases. North Carolina reports 2,000, Georgia 2,000, Mississippi 300, Virginia 400. The mortality is estimated at 50 per cent.

Dr. George A. Zeller, superintendent of the hospital for the insane at Peoria, sees a dark future. "With no certainty that we may not have to deal with pellagra as a national health problem," he says, "I have seen nothing in my study of the disease here or abroad that is reassuring and I can only offer congratulations that Illinois is the first to give official recognition to it, with a view of determining its cause and the means of prevention."

—For the past two years the Bureau of Food Inspection has been endeavoring to educate the milk dealers of the city and their supplying dairymen as to their responsibilities under the pasteurizing and tuberculin testing ordinance. Gradual enforcement of the requirements as modified by consideration for the circumstances of the business interests involved, concern for the public safety, and allowance for the natural and, under the circumstances, necessarily slow adaptation necessitated by the multiplicity of interests affected by the terms of an ordinance of such far reaching influence, has and is being accomplished. The results have been such that the Bureau now believes the moment is at hand when every influence should be applied to force compliance with the essentials of the ordinance: i. e., every cow producing milk for the Chicago market must be properly tuberculin tested each year, or every drop of such cow's milk must be efficiently pasteurized. On Jan. 1, 1911, the Milk Inspection Division purposes to apply all of its energies to the accomplishment of this end, by the exercise of every power authorized by the law for the enforcement of the terms of the ordinance.

1st. On and after Jan. 1, 1911, the beginning of a new license period for milk dealers, no license will be issued to any dealer unless his supply is properly pasteurized or obtained from a dairy the cows of which have been properly tuberculin tested within one year.

2d. On and after Jan. 1, 1911, the beginning of a new license period for milk stores, no license will be issued for any store selling milk unless such milk has been properly pasteurized or obtained from a dairy the cows of which have been properly tuberculin tested within one year.

3d. If necessary, police assistance will be requested to prevent the carrying on of a milk business at any place where license is refused.

4th. Every effort will be made to exclude from the market the milk from all dairies having cows not properly tuberculin tested within one year and not pasteurized or consigned to a pasteurizing dealer. Especially will such attention be accorded those few dairymen who have not kept faith with or "welched" out of their written agreements as made with the Department for the testing of their cows.

5th. In every case of violation, in addition to withholding or revoking the license, suit for the collection of the penalties provided will be instituted.

To many the outline of action as given above may seem rather drastic and unnecessarily severe, yet any fair-minded person fully acquainted with the dangers to which the health of the Chicago public is daily exposed through non-compliance with this law, the many deaths resulting and almost directly and positively traceable to such negligence, verging on that of a criminal character, will be inclined to criticize us for the past seemingly necessary leniency.

Suggestions are offered as follows:

1. Milk dealers selling but few cans and not pasteurizing should at once investigate their dairymen's official tuberculin testing record and engage for milk only from such dairymen having properly tested herds.

2. Milk dealers with a sufficiently large trade, and not yet so provided, should at once arrange to equip themselves with a pasteurizer.

3. The cooperative method of pasteurizing is recommended. Frequently the dairymen associated with such dealers will be found willing to contribute and assist in promoting such plans, in that they are thus relieved of the yearly expense of tuberculin testing and the dreaded loss from the reacting cows found.

4. All milk stores should investigate as to the tuberculin testing or pasteurizing status of the milk they are selling, and contract only with such dealers as are complying with the terms of the tuberculin testing and pasteurizing ordinance. Ask the Food Bureau.

5. The hiring of pasteurizing services may be found helpful for some dealers and profitable to such as have a surplus of pasteurizing capacity or time.

6. Dairymen not tuberculin testing should promptly seek dealers provided with pasteurizers.

7. The dairyman does not evade the provisions of the law by delivering to creameries which themselves depend on the Chicago market for the sale of their products, in that such products made from the milk of non-tuberculin tested cows, unless such milk be pasteurized, are also prohibited sale in our market.—From *Bulletin Chicago Department of Health.*

—THE CHICAGO-WINFIELD SANATORIUM opened its doors for admission of patients on Feb. 11, 1909. The institution was brought into existence through the efforts of several public spirited Chicago women whose names appear on the present board of directors.

Location.—The sanatorium is located at Winfield, Du Page County, Illinois, within one hour's ride from Chicago, on the Chicago Northwestern Railway. The site is a farm of 45 acres. Undulating land, numerous groves of trees, pure air, excellent drainage and pure water, make this spot, thirty miles from Chicago, an ideal place for a tuberculosis sanatorium. The outlook is very pleasing, over miles of rich country land.

Buildings.—The institution includes (1) a spacious two-story administration building, with all the necessary facilities and private rooms connected with open air sleeping porches, (2) two open air shacks for men, (3) one large shack for women, (4) one shack for children, (5) one day shack for adults and a similar shack for children. At the entrance of the sanatorium is the Baron Hirsch Women's Club Rest Cottage, at present used by the employes.

Management.—The Chicago-Winfield Sanatorium is conducted at present under the auspices of the Associated Jewish Charities of Chicago. The institution is non-sectarian as to admission of patients. The present group of patients includes men, women and children of various nationalities. The Board of Directors of the Chicago-Winfield Sanatorium consists of the following: Mr. Charles A. Stonehill, President; Mrs. M. L. Rothschild, Vice-President; Mrs. Emma B. Mandl, Vice-

President; Mrs. B. M. Englehard, Recording-Secretary; Mr. Max Lindauer, Financial Secretary; Mr. David M. Pfaelzer, Treasurer; Mrs. Joseph Fish, Mrs. Johanna M. Loeb, Mrs. A. I. Radzinski, Mrs. J. H. Quasser, Mrs. J. Spranger, Mrs. Morris Tower, Mr. Herbert J. Friedman, Mr. Jacob R. Wineman, Mr. Ferdinand Silberman, Mr. Charles Reitler, Dr. Theodore B. Sachs.

Class of Patients Admitted.—Curable cases of pulmonary tuberculosis, chiefly in the incipient stages. Pay and charity patients. Chairman of the Admission Committee, Mrs. Johanna M. Loeb, 4715 Greenwood Avenue.

Method of Treatment.—Modern hygienic-dietetic methods. Outdoor life—entire twenty-four hours. Absolute rest on admission, until constitutional disturbance subsides and the patient's nutrition is re-established by liberal diet. With convalescence comes the gradual introduction of exercise into the régime of each individual case; and later—various kinds of work to harden the muscles and gradually restore the working power.

Object of the Institution.—To arrest the tuberculous process and to restore the working power.

The patients come from various manufacturing and commercial establishments of Chicago.

RESULTS ACCOMPLISHED DURING THE FIRST TWO YEARS OF OPERATION OF THE CHICAGO-WINFIELD SANATORIUM.

Total Number of Admissions in the Last 23 Months.—Since February 11, 1909, the day of opening of the institution, a total of 224 patients were admitted. Of these 46 were children. Of the total 224 patients, 164 were discharged up to January 1, 1911, and 60 were at the institution on that date. Capacity of the institution at present, 68 beds; this number to be gradually increased.

Condition of the 164 Discharged Patients at the Time of Their Discharge.—Of the 164 discharged patients, 101 were in the incipient stage on their admission, 42 in the moderately advanced stage, and 1 far advanced. The condition of these 164 patients at the time of their discharge was as follows:

Incipient.—Apparently cured 38, arrested 45, or 82 per cent. of the total; improved 18, or 18 per cent. of the total. Total 101.

Moderately advanced.—Arrested 21, apparently cured 1, or 52 per cent. of the total; improved 16, unimproved 4. Total 42.

Far advanced, 1; *Improved:* unclassified, 20 (stay less than one month).

Thus 82 per cent. of all incipient cases were found either "apparently cured" or "arrested" at the time of their discharge; in the moderately advanced cases arrest of the tuberculous process took place in 52 per cent.

The Present Working Capacity of the 164 Discharged Patients.—The 164 discharged patients were under observation for periods ranging from a few months to one year and eight months since their discharge from the institution. Their present working capacity is shown in the following tables:

Discharged incipient cases, 101.—Full working capacity at present 75, partial working capacity 20, or 94 per cent. of the total; loss of working capacity 6. Total 101.

Discharged moderately advanced cases, 42.—Full working capacity at present 16, partial working capacity 13, or 69 per cent. of the total; loss of working capacity 13. Total 42.

Present working capacity of the 164 discharged cases, regardless of the stage of disease on admission.—Full working capacity 91, partial working capacity 33, or 86 per cent. of the total; loss of working capacity 20. Total 144. Unclassified 20. Total 164.

These results compare favorably with those of other well established sanatoria and strengthen the belief that tuberculosis can be successfully treated in our home climate if treated in the proper way and at a proper time.

The analysis of the work done at the Chicago-Winfield Sanatorium shows that the best chance lies with the discovery of the disease in the incipient stage and the immediate institution of treatment. A chance, however, should be given to those who are in the moderately advanced stage and this will continue to be the policy of all sanatoria until such a time that the laity will be willing to send a patient to a sanatorium even if the appearance does not support the diagnosis of tuberculosis.

The Chicago-Winfield Sanatorium made great strides in its development in a comparatively short period of time. From the initial capacity of 20 beds, it has now accommodations for 68 patients, and this is to be soon increased.

The institution has taken 224 young men and women suffering from a disease that is fatal without proper treatment, and returned 86 per cent. of them, as wage-earners to the community. Thus a large number of families, dependent upon these patients, remain self-supporting, and besides that, have learned the proper methods of preventing the disease.

—EDWARD SANATORIUM, NAPERVILLE, ILL.—The institution opened on January 15, 1907. In operation four years. Farm bought, original buildings erected and equipments installed at the expense of Mrs. Keith Spaulding of Chicago. Institution managed and developed, from the day of its opening, under the direction of Dr. Theodore B. Sachs of Chicago. Management independent during the first six months. Sanatorium transferred by Mrs. Spaulding to the Chicago Tuberculosis Institute in 1907.

Support.—Contributors from Chicago (chief of them, Mrs. Spaulding). Pay patients charged only the cost of maintenance; at present $10.00 a week. Ten free beds supported by Mrs. Spaulding during the last four years. One bed for children supported by the Elizabeth McCormick Memorial Fund. Three beds, Sears, Roebuck & Company for their employes. One bed by the Woman's Trade Union League for their members. One bed by the Nurses' Auxiliary of the Chicago Tuberculosis Institute for the nurses afflicted with the disease. In numerous cases the charges to the patients are reduced through allowances given out of the Patients' Relief Fund, contributions by various fraternal organizations, United Charities, etc.

Methods of Treatment.—The disease is treated by the application of the modern hygienic-dietetic methods. Patients pass the entire twenty-four hours out of doors, sleep in open air shacks and pass the day hours in specially constructed recreation shacks. On admission each case is studied thoroughly with the aid of all the medical and laboratory methods. *Absolute rest* continues until the constitutional disturbance subsides and the patient's nutrition improves up to normal. Then exercise is gradually introduced into the daily régime and later graduated work becomes a feature of the treatment, this to harden the muscles and prepare the convalescent patient for the work awaiting him in the future. The work assigned the patient is individualized: thus an office worker is given the opportunity to do his work under open air conditions; the nurse is assigned tasks suitable to her; and so on. No matter what the occupation is assigned to the patient, most of the day's time is spent out doors. The object of the Institution is, *first,* to arrest the tuberculous process; *second,* to restore the working power.

Present Equipment and Capacity.—Farm 40 acres. Four open air shacks for patients. One open air shack for nurses employed at the institution, five Tucker tents for patients, one Tucker tent for former patients at present employed at the institution. Infirmary, in connection with the medical building, for twelve patients. Medical building, including all the medical and laboratory facilities—a feature of the institution. Service hall, assembly room, kitchen, laundry; second floor given to employes. Two recreation shacks for day use. Total capacity at present 60 beds, to be increased to 100. Farm provides necessary vegetables and is gradually being developed to provide all the necessary eggs (provides now one-third of the amount needed). Modern poultry house built after the plans of the U. S. Department of Agriculture. Five hundred and fifty fowls.

Sanatorium Régime.—The Edward Sanatorium was organized, is at present conducted, and stands for revolutionizing the present institutional methods of treatment of tuberculosis in this city. A constant effort is being made to develop the medical and laboratory facilities of the institution so that each case can be studied thoroughly in order that proper treatment can be instituted in each individual case. The régime is strict but is put into effect in such a way as to make the patients cooperate in all that pertains to the institution. The life of the convalescent patient is made full by rest, exercise, work, social activities (concerts, lectures, patients' reading circle are permanent features of the institution). The aim is to blend the patients, the nurses, the doctor, the employes, all into one happy family, with one purpose in view, to accomplish the restoration of the tuberculous patient to health and ability to earn his livelihood.

Class of Patients.—Workers in offices, commercial and manufacturing establishments in Chicago, mothers reduced in their conditions by drudgery of household work under unfavorable conditions, young girls and

young men with vitality drained by the same kind of conditions, or a mode of life that must be corrected. Good moral character is essential to admission to the institution. The hard working, honorable wage-earners are our patients. The sanatorium is a school and exposition of normal life.

Results Obtained at the Edward Sanatorium.—Up to January 1, 1911, over 400 patients passed through the Edward Sanatorium. Average duration of stay was about four months. Two hundred and seventy-seven cases are analyzed in the book just published. Of 176 patients in the incipient stages of the disease formerly treated at the Edward Sanatorium, 161 are at present in normal health and in possession of full working capacity. This is at the end of six months to three years and nine months since their discharge from the institution. You can find these young men and women working in the various offices, commercial and manufacturing establishments in the city of Chicago, contributing to the support of their families. They are men and women who have learned the proper mode of life, have gained enthusiasm and energy and are missionaries of proper living in their families, among their friends and associates.

Thus 9.15 per cent. of all incipient cases formerly treated at the institution are found now in good condition. This is a record that compares favorably with the showing made by any sanatoria in any part of the country. Of the 91 moderately advanced cases treated at the sanatorium during the last three and one-half years, 32, or 35.1 per cent., are at present in the possession of full working capacity. We must add to this also 5.1 per cent. of the incipient cases at present in possession of partial working capacity, and 16.5 per cent. of the moderately advanced cases with partial working capacity. It is understood that with the progress of time a certain percentage of arrested and cured cases relapse, but strict supervision is kept over these discharged cases to make the percentage of the relapses as small as possible. A complete analysis of the entire 400 cases will be published later.

The effect of the work of the Edward Sanatorium on the tuberculous situation in the City of Chicago. The mission of the Edward Sanatorium.—The work of the Edward Sanatorium led to the establishment of other similar institutions (as for instance, the Chicago-Winfield Sanatorium, an excellent institution, brought into existence through a ten year's campaign by Dr. Sachs. The sanatorium was organized by the Baron Hirsch Women's Club, the Jewish Consumptives' Relief Society, and the Willing Workers. It is conducted at present under the auspices of the Associated Jewish Charities of Chicago.)

The results obtained at the Edward Sanatorium during the first three years of its operation have attracted the attention of the Chicago community to such an extent as to pave the way for the Chicago Municipal Sanatorium with its comprehensive provision for the thousands of tuberculous patients in this city. This city needs additional institutions, but even when the Municipal Sanatorium comes into existence and

the number of private sanatoria grows, the aspiration of the Edward Sanatorium is still to continue its development along the lines of efficiency, to serve as an example to other institutions. This is certainly a very worthy cause and the Chicago public ought to be very liberal in the support of this institution in order to enable it to maintain its pace.

MARRIAGES

George Washington Mitchel, M.D., Peoria, Ill., to Miss Myrtle McKee of South Dakota, January 3, 1911.

James Alfred Sullivan, M.D., East St. Louis, Ill., to Miss Ethelynne P. Weisert of Vincennes, Ind., May 25.

Theodore H. Trapp, M.D., Hecker, Ill., to Miss Lela Mannen of Waltonville, Ill., at Mount Vernon, Ill., December 29.

DEATHS

LLOYD E. GOODPASTURE, M.D., Washington University, St. Louis, 1908; died at his home in Thayer, Ill., December 25, 1910, from typhoid fever, aged 28.

ADOLPH BUETTNER, M.D., College of Physicians and Surgeons, Chicago, 1886; died at his home in Chicago, December 18, 1910, from paresis, aged 55.

M. V. LONERGAN, M.D., Decatur, Ill.; a graduate of the College of Physicians and Surgeons, Keokuk, Iowa; was burned to death in the hotel fire at Pana, Illinois, December 27, 1910.

ALBERT E. AURINGER, M.D., Hahnemann Medical College, Chicago, 1888; of Mendota, Ill., died December 4, 1910, while making a professional call, from cerebral hemorrhage, aged 53.

JOHN S. WATSON, M.D., Bennett Medical College, Chicago, 1875; for many years a practitioner of Minooka, Ill., died at his drug store in that place, December 9, 1910, from myocarditis, aged 65.

GEORGE HARVEY DOANE, M.D., College of Physicians and Surgeons, Chicago, 1908; a member of the American Medical Association; died at his home in O'Fallon, Ill., January 6, 1911, from pneumonia, aged 27.

JOHN L. HALE, M.D. (license, thirty years of practice, Kentucky, 1896), of Wyckliffe, Ky.; formerly a member of the American Medical Association; died in Cairo, Ill., December 30, 1910, from cancer, aged 75.

RAYMOND W. CHAMBERLAIN, M.D., Washington University, St. Louis, 1909; of Fisher, Ill.; senior medical interne at the City Hospital, St. Louis; died in that institution, December 24, 1910, from typhoid fever, aged 27.

JOHN ALOYSIUS HEMSTEGER, M.D., Chicago Homeopathic Medical College, 1890; formerly professor in materia medica in his alma mater; died suddenly at his home in Chicago, January 5, 1911, from cerebral hemorrhage, aged 56.

MONTRAVILLE WADDLE, M.D. (license years of practice, Illinois, 1878); for 45 years a practitioner; hospital steward during the Civil War; died at his home in Carmi, Illinois, December 22, 1910, from rheumatism, aged 77.

WILLIAM POWELL GORDON, M.D., Washington University, St. Louis, 1867; Missouri Medical College, St. Louis, 1875; a member of the American Medical Association; died at his home in Carlyle, Ill., October 10, 1910, from cirrhosis of the liver, aged 66.

L. L. SILVERTHORN, M.D., a pioneer physician of Charleston, Coles County, died January 21, 1911, of pneumonia, at the age of 81 years. Dr. Silverthorn was a splendid type of the old-time family physician, and had made his mark in the annals of Coles County.

O. K. GRIFFITH of Huntley, Ill., died September 24, 1910. He was born in Mesopotamia, Ohio, July 29, 1836, and graduated from the Cincinnati Eclectic Medical Institute. Dr. Griffith has been in practice for forty-two years. He was a member of the McHenry County Medical Society.

PATRICK HENRY MCRAVEN, M.D., Missouri Medical College, St. Louis, 1878; formerly of McClure, Ill., but for a few months a resident of East St. Louis; at one time member of the staff of the Anna State Hospital; died at his home in East St. Louis, November 21, 1910, from pneumonia, aged 58.

EDWARD PAGE GRANVILLE HOLDERNESS, M.D., Missouri Medical College of St. Louis, 1860; Bellevue Hospital Medical College, 1875; consulting surgeon to St. Joseph's Hospital, Bloomington, Ill., of Chenoa, Ill.; died in Chicago Heights, Ill., January 1, 1911, from bronchopneumonia, aged 78.

JULIEN E. HEQUEMBOURG, M.D., Rush Medical College, 1882; of Chicago; a member of the American Medical Association, and Physicians' Club of Chicago; attending physician to St. Joseph's Hospital, and the Daily News Sanitarium for Babies; died suddenly while making his rounds in St. Joseph's Hospital, Chicago, December 8, 1910, from heart disease, aged 54.

JOHN ABBOTT PRINCE, M.D., of Springfield, brother of Dr. A. E. Prince and son of the late Dr. David Prince of Jacksonville; died suddenly at Springfield, January 1, 1911. Dr. Prince had practiced in Springfield and Jacksonville for 24 years, and was a graduate of the University of Michigan. He was well known as a surgeon through the central part of Illinois.

ISAAC PRINCE, M.D., Hahnemann Medical College, Chicago, 1878; for ten years a missionary in Jamaica; chaplain during the Civil War; for several years assistant superintendent of the Foundlings Home, Chicago; founder of the Home for Destitute Crippled Children, and instrumental in establishing the first three day nurseries in Chicago; died in the Church Home for Aged People, Chicago, January 2, 1911, from pneumonia, aged 76.

Book Notices.

HYGIENE OF PREGNANCY. By E. S. Harris, M.D., Higginsville, Mo. Price 10 cents per copy.

Dr. Harris has assembled in a pamphlet of twenty-four pages, a great deal of valuable advice, and as four editions have been printed in a short time, there is proof that the book fills a long felt want. The doctor's name is placed on the first page of the cover, and this serves as an ethical form of advertising his services to the public. Send to him for a sample copy.

THE PRINCIPLES OF PUBLIC HEALTH. By Thomas D. Tuttle, M.D., health officer of Montana. Price 50 cts. World Book Co. Yonkers-on-Hudson, N. Y.

Dr. Tuttle seems to be a man actually interested in the health of the people, and not a politician giving most of his time to dirty party politics. He has in this book of 180 pages produced a clear and simple statement of modern ideas on the principles of public health, as applied to the individual and community. Such books as this are destined to have considerable influence in promoting sane thoughts on this most important subject, and we trust will be adopted by all schools in Illinois as a text book.

A MANUAL OF NURSING. By Margaret Frances Donahoe, formerly superintendent of nurses, and principal of training school Philadelphia General Hospital. D. Appleton and Co., New York and London. Price $2.00.

Miss Donahoe's work of nearly 500 pages is a text book of great value, because it deals with basic principles, and is calculated to stimulate the nurse to a thorough study of her profession. It can be safely placed in the hands of an intelligent person, and contains just enough but not too much of real science for the trained nurse. No doubt Miss Donahoe's long connection with the Philadelphia General Hospital and the Massachusetts General Hospital has enabled her to prepare this manual. We heartily commend it to our readers.

PRIMER OF HYGIENE. By John W. Richie and J. S. Caldwell, illustrated. Cloth. Price 40 cts. World Book Co. Yonkers-on-Hudson, N. Y.

The authors of this excellent text-book for schools are Professors of Biology in two prominent Southern Colleges, and these gentlemen have undoubtedly produced a book which is destined to exert a considerable influence on the health and morals of the rising generation. The language is simple and direct, and the lessons are exemplified by wood cuts of great excellence. The effects of alcohol and tobacco on the health are stated in a temperate way and should certainly appeal to all classes much more than the extravagant and untruthful statements made in many books which have been foisted on the young scholars. The work deserves to be read by every practicing physician who might well recommend it as a bit of interesting reading for grown-ups as well as children.

SYMPTOMATIC AND REGIONAL THERAPEUTICS. By George Howard Hoxie, A.M., M.D., Professor of Internal Medicine and Dean of the Clinical Department in the School of Medicine of the University of Kansas; Member of the American Academy of Medicine, American Medical Association, etc.; President, 1909-1910, of Association of American Medical Colleges. With fifty-eight illustrations in text. Cloth. Price, $4.00. New York and London, 1910: D. Appleton & Company.

Dr. Hoxie of Kansas City, Kansas, has stepped into the lime-light with a work of distinct value, and which certainly should be recommended to the student and the young practitioner in the difficult work of adapting knowledge given in the medical school to the actual test of treating diseases. This book is a little different from any yet submitted and deserves a large sale. We notice that Dr. Hoxie gives a place to the Denver mud poultice, which we believe has had its day and been proven almost, if not quite, useless. Otherwise the book is certainly quite up to date and worthy of recommendation.